Korg M1
Drum Pattern Handbook

By Dan Walker
With Jack Verga

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By Dan Walker

With Jack Verga

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Chapter 1

Start Here!

This text deals exclusively with the issue of rhythm recording on the M1. In working with the machine, I found that the M1 produces some of the best sounding drums, percussion and cymbal voices I've heard lately. In fact, I've used the M1 for its drum voices in the studio in place of some other more exclusive and higher priced machines.

The M1 sequencer supports two types of recording processes:

- **Song Record** - Data is recorded continuously onto one of the eight tracks.
- **Pattern Record** - Small segments of data are recorded into Pattern locations and then these patterns are linked, one following another, into a complete part onto a track.

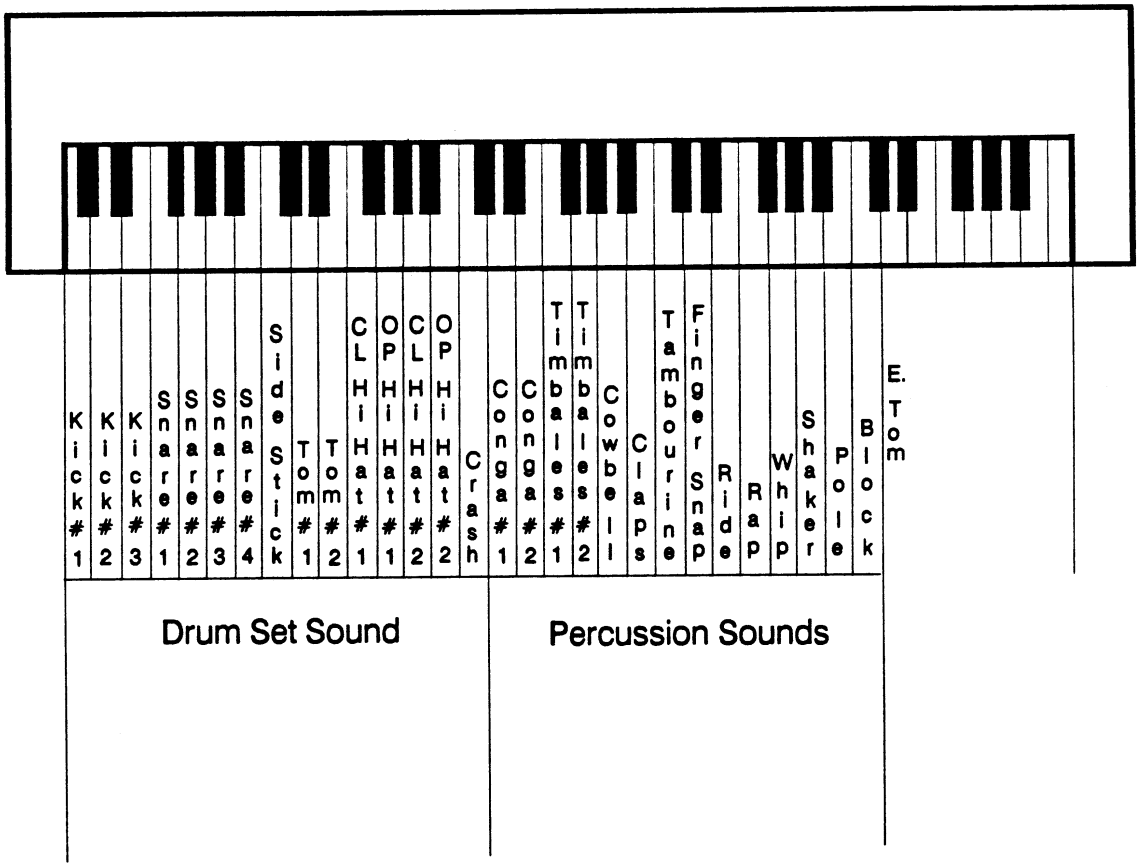
We'll be dealing strictly with *Pattern Record* in this book. The Song Record process is covered in great detail under a separate title *M1 - Sequencing and Recording Handbook*, also available from Alexander Publishing. We'll also be discussing syncing techniques and various ways to use the effects processors built into the machine.

Playing the Drum Kits

The M1 is equipped with some of the best drum sounds available anywhere, making its workstation capability as complete as any such machine on the market.

Select a Drum Kit Program

There are three ready to play drum kits, in sound program locations 09, 29 and 49. Each contains 30 separate instrument voices which are arranged across the keyboard in *Zones*. Some of the instruments are triggered by a single key while others are given a range of several keys. Here's a diagram of how Program #09 - Drums 1 is zoned:



You can use the preset drum kits as the percussion sounds for your rhythm recording or you can create custom drum kits of your own (see Chapters 7 and 8).

Chapter 2

Real Time Recording Preparations

This chapter deals mainly with preparing your recording environment, such as setting the time signature, the tempo, the metronome beat, and so on. Once the proper preliminary steps have been taken, the actual recording process is simple and quite hassle-free.

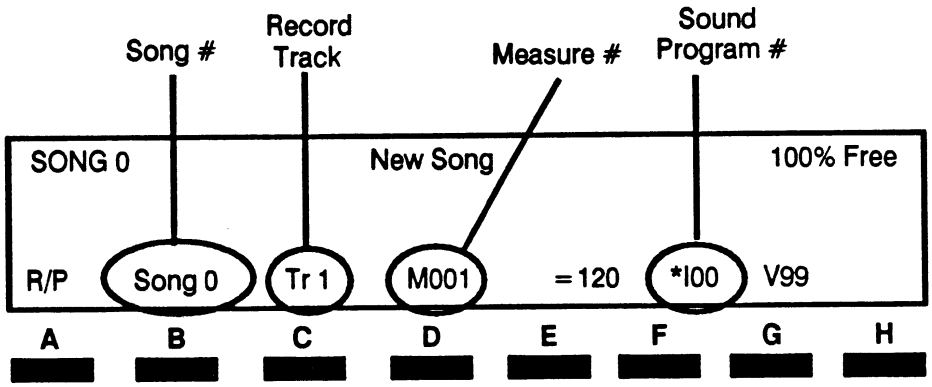
The following sections are organized in the order they should be approached as you prepare to make a record a Pattern. You'll find a healthy amount of detail which naturally takes you longer to read and digest than to actually implement. Once you've become familiar with the basic procedure and what it involves, the process takes just a few short minutes.

Recording performance data into a Pattern location is very similar to Real Time Song Record with one notable exception. The pattern loops repeatedly during recording, allowing you to add a note here and there as the pattern plays. Every note you play while the sequencer is in motion is recorded as part of the performance. This is exactly like recording on a drum machine.

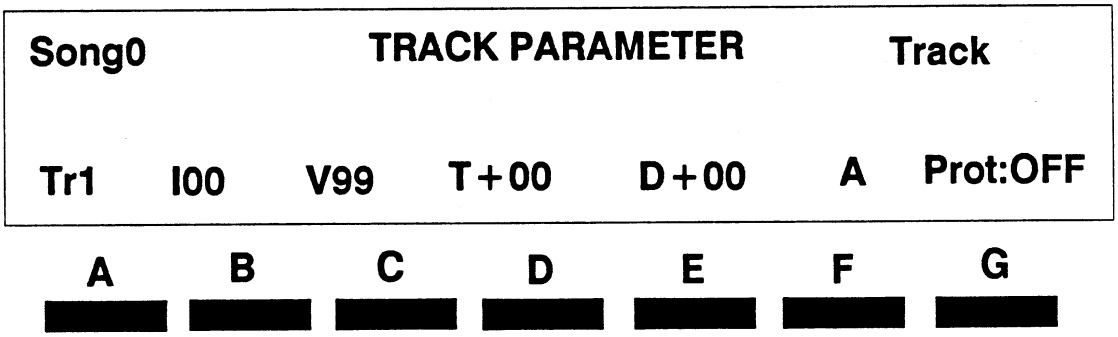
Select a Sound Program

The sound program you hear while recording a pattern is the one assigned to the currently selected Record Track. To hear a particular sound program:

1. Press the [Seq] button and select Track #01 on the main *Record/Play Page:*



2. Select the Track Parameter Page using the [Page +/-] buttons. Make sure Track 1 is selected on this page as well. If not, use the [Up/Down] buttons to select it.



3. Press the [B] cursor button and assign one of the *Drum Kit* sound programs (09, 29 or 49) to the track.

Initialize a Pattern

The first step to recording a new pattern is to Initialize a pattern location. If the pattern already contains data, initialization destroys all current data and empties the pattern. The initialization procedure sets the length from 1 to 8 measures and the Beat value (time signature).

NOTE: All empty patterns are defaulted to a one-measure length and a beat value of 4 (4/4 time signature). If you want to change the length or beat value, you must initialize the pattern location.

To Initialize a Pattern:

1. Select the Pattern Initialize Page (Function 6/Page 2).

2. Select the pattern location number from 00 - 99. Remember, if the pattern you select already contains data, the initialization procedure erases all the current data.

3. Select the Beat value from 2 - 6. This parameter sets the time signature of the Pattern. The values are:

   2 = 2/4 time signature
   3 = 3/4
   4 = 4/4
   5 = 5/4
   6 = 6/4

The value you select determines the number of beats in a measure (a quarter note always gets one beat).

NOTE: Since the Beat value merely sets the number of beats in a bar, it doesn't actually determine a time signature per se, but rather a feel. For instance, you can feel a Beat value of 6 as a 6/4 or a 6/8 time signature. In either case, the M1 views the quarter note as equal to one beat, but you, the user, can feel the beat division any way you like. Just remember, all quantize and step-time resolution values are based on the quarter note getting one beat.

Unfortunately, there's no Beat value of 7, so a 7/4 time signature is impossible.

NOTE: Once the time signature is set, it can't be changed without re-initializing the pattern. Since this would erase all recorded data in the process, the time signature you select is the one you keep.

4. Select the Length from 1 - 8 measures.

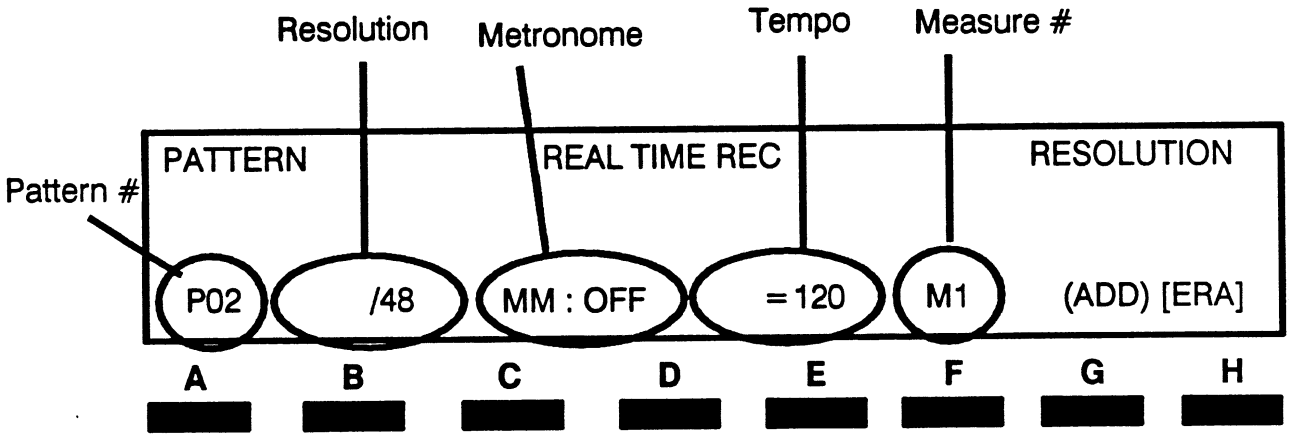
5. Selects *[EXEC]* on the display. If data already exists in the pattern, you'll receive a prompt *Are You Sure?*. Press [Yes] to initialize, or [No] to cancel.

After initializing a pattern location, you're ready to make recording preparations.

Real Time Record Page

All Real Time Recording is done on the *Pattern Real Time Record Page.*

1. Use the [Page +/-] buttons to select the Pattern Real Time Record Page:



2. **Pattern Select** - The parameter on the far left allows you to select any of the 100 patterns. *Select the pattern you just initialized.*

You can select a pattern that already contains data to edit or re-record the existing data.

3. Move the cursor to the Resolution value parameter and select a Resolution Value.

Resolution Value

This parameter selects a resolution value that represents the smallest beat division possible while recording. It's actually a quantize feature that performs its function during the recording process instead of afterward as an edit.

This is similar to the way most drum machines work.

On many drum machines, it's impossible to record notes smaller than 16ths because the machine is permanently set to a 16th-note resolution value. This means a sixteenth note is the smallest beat division possible. What you

hear is a recording that sounds as though it was played perfectly in time, even if it wasn't played absolutely perfectly.

On the M1, you're not stuck with a preset resolution value that you can't change, you can select the resolution value that best fits the music you'll be recording. The range of values span from a quarter-note resolution, which means all notes played are moved to the nearest quarter note, to a high resolution, which doesn't change your playing performance at all.

What's more, the Resolution value can be changed at any time during the recording process, which means you can record one instrument with a high value and another with a lower value, all while the pattern continues to loop. For example, you may want to set the resolution value to 16th notes while recording a HiHat part, and then set it to quarter notes while recording the snare drum.

The resolution value affects only the data as it's recorded. Data already recorded is unaffected.

The resolution value shown on the display is represented in quarter-note fractions (♩ /2 = 1/2 quarter note or an 8th note).

♩ /48 = High resolution - no change to your performance.

♩ /24 = 64th note triplets

♩ /16 = 64th notes

♩ /12 = 32nd note triplets

♩ /8 = 32nd notes

♩ /6 = 16th note triplets

♩ /4 = 16th notes

♩ /3 = 8th note triplets

♩ /2 = 8th notes

♩ /1 = Quarter notes

All notes played while recording are automatically moved to the nearest selected beat division.

4. The next step in preparing to record a pattern is to set the metronome.

Metronome

You can choose to record with a metronome or without. If you turn the metronome on, you'll hear it whenever the sequencer is in motion, during both record and play modes. Hearing the metronome during playback is annoying in most cases, but in a live performance situation, the drummer often needs to hear the click to keep time with the recorded sequence. Unfortunately, the metronome click is part of the whole mix and can't be routed to a separate output, so if the drummer hears it, so does the audience.

1. Select the metronome field (MM) by pressing cursor [C].

Tempo

1. Select a record tempo.

NOTE: This value is a record tempo only because once a pattern is inserted into a Song, it accepts the Basic Tempo of that Song.

Now that you've made the pattern record preparations, you're ready to record a drum track.

Chapter 3

Real Time Pattern Recording

After making the preparations discussed in the previous chapter, you're ready to make a pattern recording.

Recording a Drum Pattern

1. You should be on the *Pattern Real Time Record Page* after making record preparations.

2. Press [Rec] and listen to the tempo click. Change the tempo to a more comfortable recording rate, if necessary.

3. Press [Start/Stop] and recording begins immediately without a count-off. Don't play right away if you don't want to. You can wait until measure 1 comes around again. Watch the display.

The machine loops the length of the pattern until you press [Start/Stop] again. Every note you play is recorded; that means you can add notes on each pass and build the pattern one pass at a time.

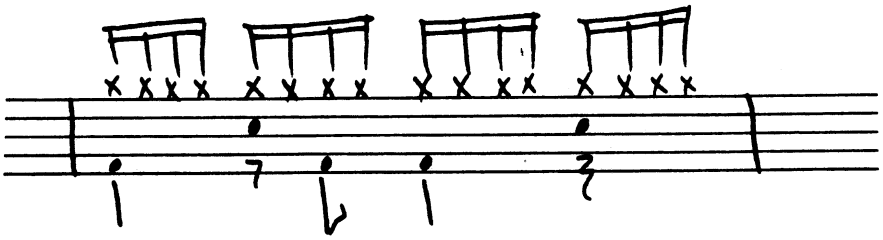
You can change the resolution, tempo and metronome setting at any time during record. All notes you play after changing the resolution are affected; those already recorded are not.

4. When you want to stop recording, press [Start/Stop].

5. To play back, press [Start/Stop] without pressing [Rec] first.

Recording Experiment

Record this single measure example:



1. Press the [Seq] button and select the Track Parameter Page with the [Page +/-] buttons.

2. Press the [B] cursor button and select sound program number I09 - Drums 1.

3. Select the Pattern Initialize Page and an empty pattern or one you don't mind erasing.

4. Set the *Length* to one measure and the *Beat* value to 4.

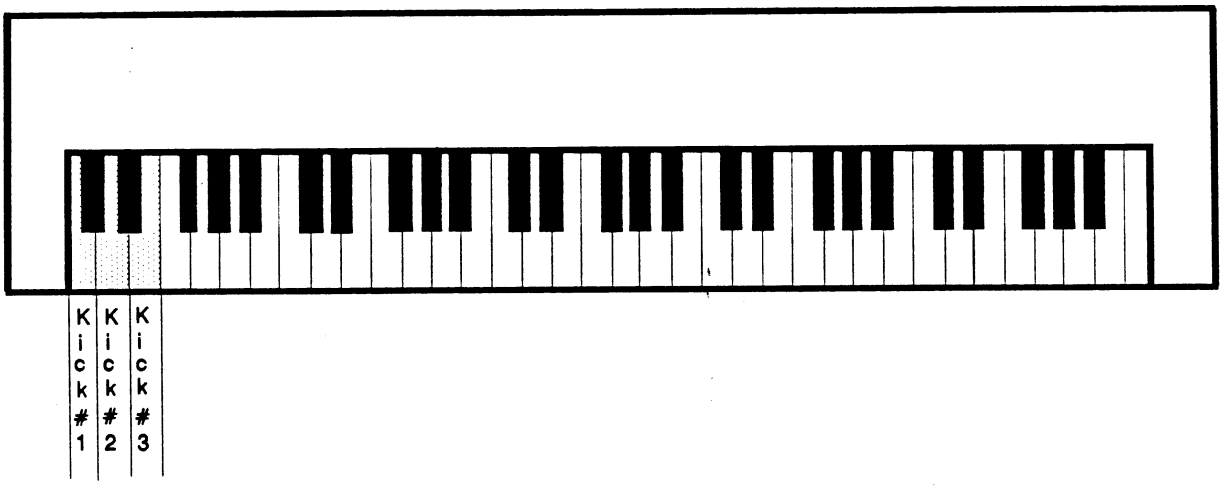
5. Initialize the Pattern by selecting [EXEC] on the display.

6. Select the Pattern Real Time Record Page and select the pattern number you just initialized.

7. Set the *Metronome* to ON and press [Rec]. Set the *Tempo* to a comfortable rate.

8. Press [Play] and the M1 begins recording. We'll record the bass drum first. Set the *Resolution* value to 1/8 (the smallest beat division in the bass drum part is an eighth note).

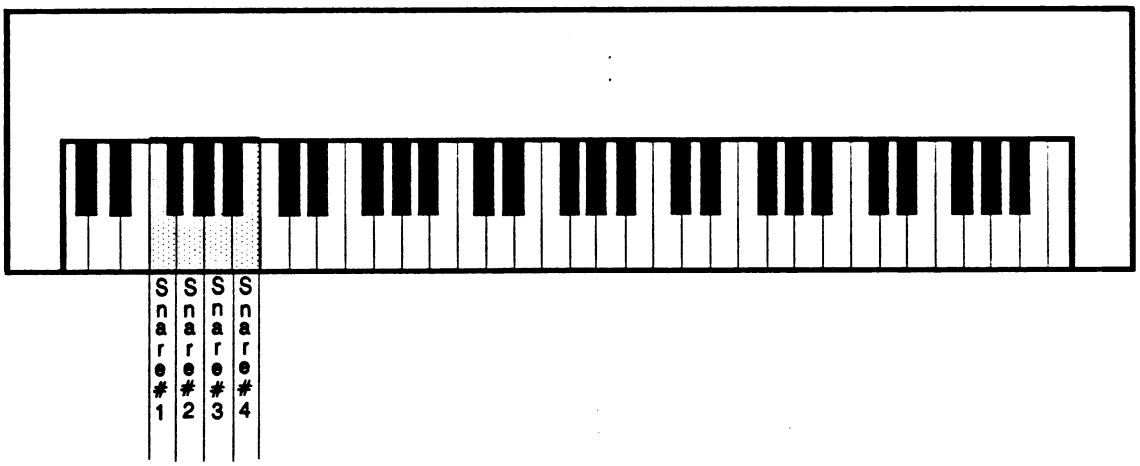
9. Record the bass drum part. You can pick from three different bass drums:



10. Continue to let the pattern loop and we'll record the snare drum next.

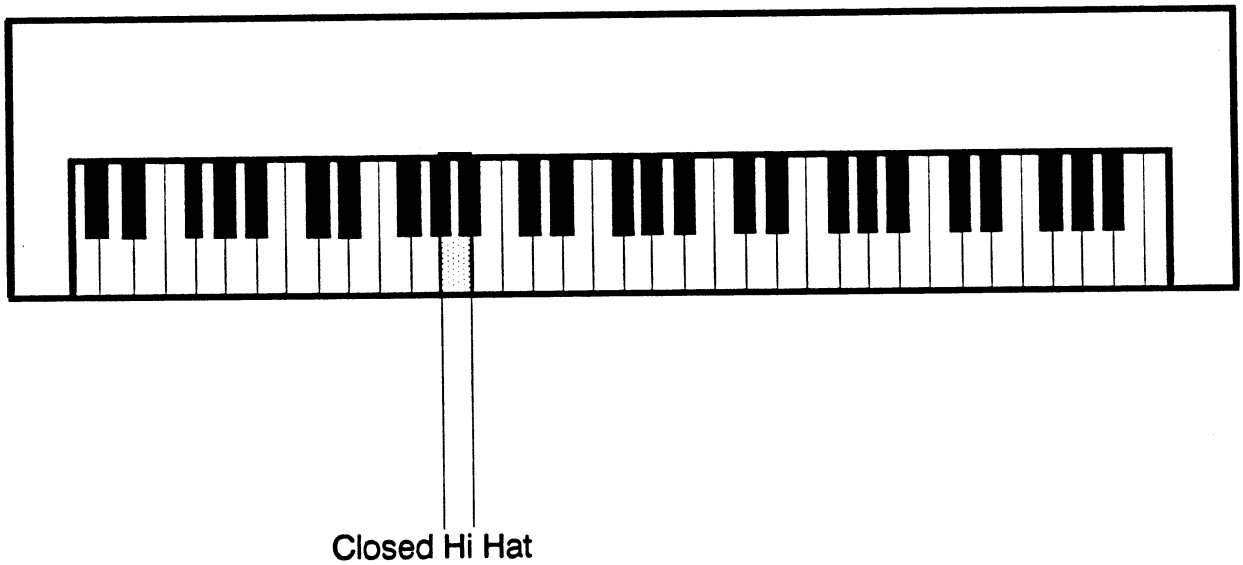
11. Set the *Resolution* value to 1/4.

12. Record the snare drum part. You can pick from 4 different snare drum sounds:



13. As the pattern loops we'll record the HiHat part. Set the *Resolution* value to 1/16 and slow the tempo down a bit.

14. Play this key to trigger the Closed HiHat sound:



If you make a mistake...

Erasing Data

Erasing or adding notes is done on the Pattern Real Time Record Page with the Add/Remove and Erase functions.

There are two ways to erase notes from a pattern. Individual pitches are erased with the Remove function and all sequence data is erased with Erase. In both cases, data is erased *while the sequencer is running.*

To Remove a Select Instrument:

1. Press [Rec] and [Start/Stop]. The [Add] and [Era] functions appear on the screen.

2. Press the [G] cursor to select ADD. Change the function to *Remove* with the [Up] key.

3. Play the key that triggers the instrument you want to erase on the keyboard. All occurrences of that instrument between the time you played the key and released it are erased. You'll still hear them while you hold the key, but on the next pass, the data is gone.

In this way you can erase a single note or full measure(s). All other instruments in the pattern are unaffected. Adjust the tempo down to make a precise edit.

4. Return to data record [Add] on the display by pressing the [Down] key.

You can go back and forth between Remove and Add as often as you want without stopping the sequencer.

To Erase All Sequence Data:

1. Press [Rec] and then [Start/Stop]. The [ERA] function appears on the screen at the far right.

2. You'll make your edit by selecting [ERA] (equal rights erasing) as the sequencer plays. All notes that occur between the time you press the [H] cursor key and when you release it are erased.

3. Begin by setting the tempo to a comfortably slow tempo so you don't make a mistake.

4. Select [ERA] and all data that occurs while you hold the cursor key is erased. You'll still hear it while you hold the key but on the next pass, the data is erased.

To Overdub an Existing Pattern

To record new overdubs to an existing pattern, simply select the pattern number on the Pattern Real Time Record Page (Function 6/Page 1) and press [Rec] and [Start/Stop]. You'll hear all the current data played back as you add new data.

Chapter 4

Pattern Record/Step Time

Step-Time Recording is the method first employed by the early analog sequencers and therefore has many supporters among composers who have been using sequencers for a while. One reason it's still advocated is that it allows the composer the most control of his/her music. With Step-Time Sequencing, each Step or Event in the music, including all the notes and rests, are input separately.

Those of you who are comfortable with the Real-Time recording method may view Step-Time as unnecessarily laborious. This can be true at first, but after a little practice it becomes second nature. You'll find that the Step-Time method is very useful when you encounter a passage that's too difficult to play well, or when you want a part played with a machine-like effect.

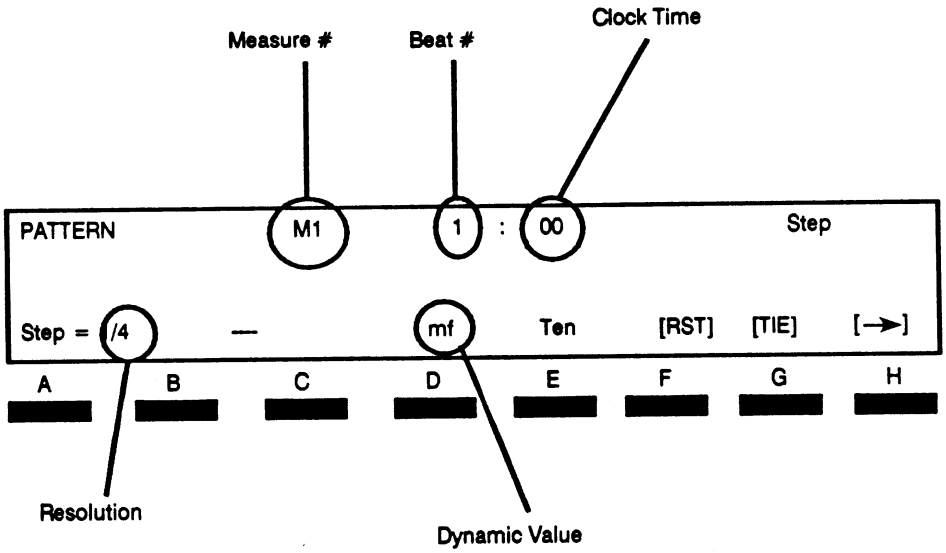
A common criticism of this method draws attention to the impersonal process of inputting data instead of playing it. It's true that Step-Time recordings can sound mechanical and strict but, on the other hand, individual touches of volume and tempo changes CAN be added by the skilled user to make the music quite intimate.

It just takes a little practice!

Enter Pattern Step Record

1. To record a new pattern, begin by Initializing a pattern location (see Initializing a Pattern in Chapter 3).

2. Select the Pattern Step Recording Page (Function 2/Page 2).



3. Select the pattern location you just initialized when recording a new pattern, or you can add data to a pattern already recorded. Any pattern number can be selected, so you can record part of the data in real time and part in step time.

4. Press [Rec], then [Start/Stop] and the step record display appears.

Reading the Step Time Display

All the tools you need to input a step-time performance are on one menu page.

In step-time recording, there are four basic elements you must address.

The first one is the pitch - the key played on the keyboard.

Pitch

You won't see a parameter for pitch because you select pitch by playing notes on the keyboard and the display doesn't monitor your selections.

Each time you play and release a key on the keyboard, the sequencer records the pitch or pitches you played. The rhythmic value or beat division assigned to the pitch, whether it's an eighth note or a quarter note, is specified by the Step value.

This is the second of the four elements in Step Time recording.

Step Value

The resolution or step value is shown on the far left in the display.

Step-Time recording involves inputting each individual Step or musical event into a piece of music one at a time. But what is a Step, and how is it determined?

In music, every bar is divided by rhythmic note values into quarter notes, eighth notes, sixteenth notes and so on. Each Step is also a division of the bar. The size of a Step is determined by the Step value, ranging from a whole-note division (just one step in a 4/4 bar) to a 32nd note (32 steps in a 4/4 bar).

The Step value is set with two parameters, the Step parameter and the Triplet/Dot parameter.

The Step parameter values as they appear on the display:

- 1/1 = whole note
- 1/2 = half note
- 1/4
- 1/8
- 1/16
- 1/32

With only these step values at your disposal you're limited to just duplet passages because triplets are not represented. But these are just the basic beat division values and can be adjusted into triplets or dotted notes with the parameter that appears immediately to the right of Step Value.

The Triplet/Dot parameter changes the selected step value into a triplet or a dotted note. There are three value choices in this parameter:

- **[----]** = No change to the selected step value.
- **[TRIP]** = The step value is changed to a triplet. If the current step value is an 8th note, selecting TRIP changes the step value into an 8th note triplet. When you play a key on the keyboard you input an 8th note triplet.
- **[DOT]** = The step value is dotted.

You simply select the step value for the passage you want to record and play the keyboard to select pitch.

For example, if you've an 8th-note passage, you set the step value to an 8th note and each time you play a note on the keyboard, the M1 advances one step to the next 8th-note division. The step value can be changed at any time during the recording to allow you to input any beat division.

Next to the step value parameters on the display, you'll find the Key Dynamics parameter.

Key Dynamics

Key Dynamics is the most important element at your disposal to add human expression to an otherwise mechanical recording. If you adjust the value of key dynamics properly, you can turn a delightful phrase. It takes planning and some foresight, but the results are worth it and your expression is quite limitless given the range of key dynamics values.

Touch sensitivity is determined by the key-dynamics setting for each step. The sequencer doesn't record the force with which you strike the keys on the keyboard in step-time recording; all your expression must come from the key dynamics parameter.

The chart on the next page, courtesy of Korg, shows you the range of values and their relative audible result, plus their MIDI velocity value equivalents.

Key Dynamics Chart

Value	Strength	MIDI Velocity Value
ppp	Pianississimo	24
pp	Pianissimo	44
p	Piano	54
mp	Mezzo Piano	64
mf	Mezzo Forte	74
f	Forte	84
ff	Fortissimo	94
fff	Fortississimo	114

To the right of the Key Dynamics parameter is the Staccato/Tenuto parameter, which determines the articulation of the note.

Articulation is the fourth element in step-time recording.

Articulation

The articulation of a note refers to how long it's held of its rhythmic value. If a note is struck and then released very quickly, it's held very little of its actual value, or played staccato. If it's held its entire value, the result is extremely smooth playing between notes, and this is called tenuto.

The articulation of each step is determined by the Staccato/Tenuto parameter. There are three value choices:

- **[STAC]** - The note is held 50% of its full step value and the result is short disconnected playing.
- **[----]** - The note is held 80% of its full step value and the result is normal connected playing.
- **[TEN]** - The note is held the full 100% of is step value and the result is extremely smooth and connected playing.

NOTE: This parameter means little when dealing with percussion sounds because they don't sustain. There is no audible difference in the sound when played either staccato or tenuto.

Other Considerations

Inputting Rests

Rests are simple. They don't need to be articulated or dynamically played. All you do is select the step value, alter it if necessary with the triplet/dot parameter, and then select the Rest parameter [RST] on the display. The sequencer inputs a rest and then advance one step.

Clock Times

The current position in the recording is displayed at the top center of the screen. The measure number is labeled in the usual manner, and the current position within the measure is labeled in Beats (quarter-note divisions) and Clock Pulses (equal to 1/48 of a quarter note.

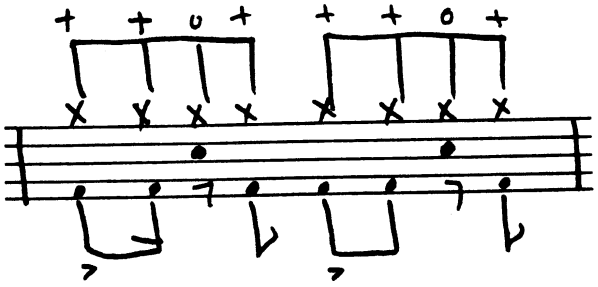
If you input a quarter note, you can expect to see the position change by one beat value. When you input an eighth note, the Clock pulse value advances by 24 (a quarter note equals 48 clock pulses and half of 48 = 24). When you input a 16th note, the clock pulse value advances by 12, and so on.

When you Make a Mistake

If you make a mistake (infrequent, I'm sure, but it's been known to happen) all you do is select the [<] symbol on the display and you go back one step at a time.

Step Record Exercise

Perform these exercises if you haven't used the Step Time Record method before. They'll help to familiarize you with the procedure and it's possibilities.



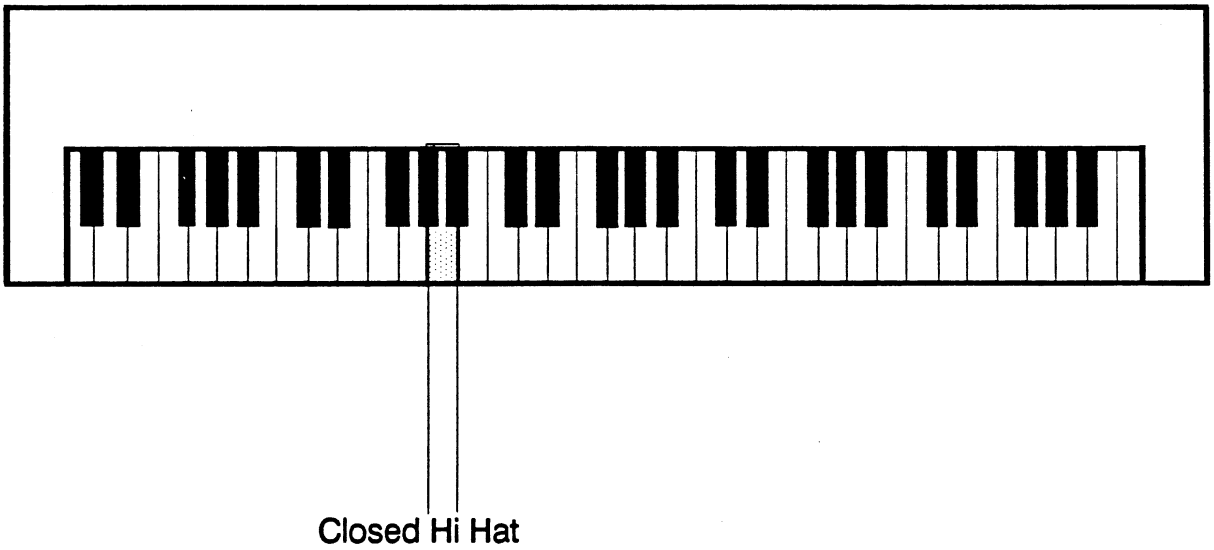
1. Find an empty Pattern or one you don't mind erasing. Select the *Pattern Initialize* page and select the pattern number you decided on and then set the *Beat*. value to 4 and the *Length* to one measure.

2. Select the *Pattern Step Recording* page and select the pattern number you just initialized. Press [Rec] and [Start/Stop] your ready to begin recording.

3. We'll start with the hihat part. As you can see from the score, the hihat changes from closed to open in two spots. The part is in 8th note beat divisions so set the resolution to 8th notes (1/8).

4. The measure location should read *M1 1:00.*

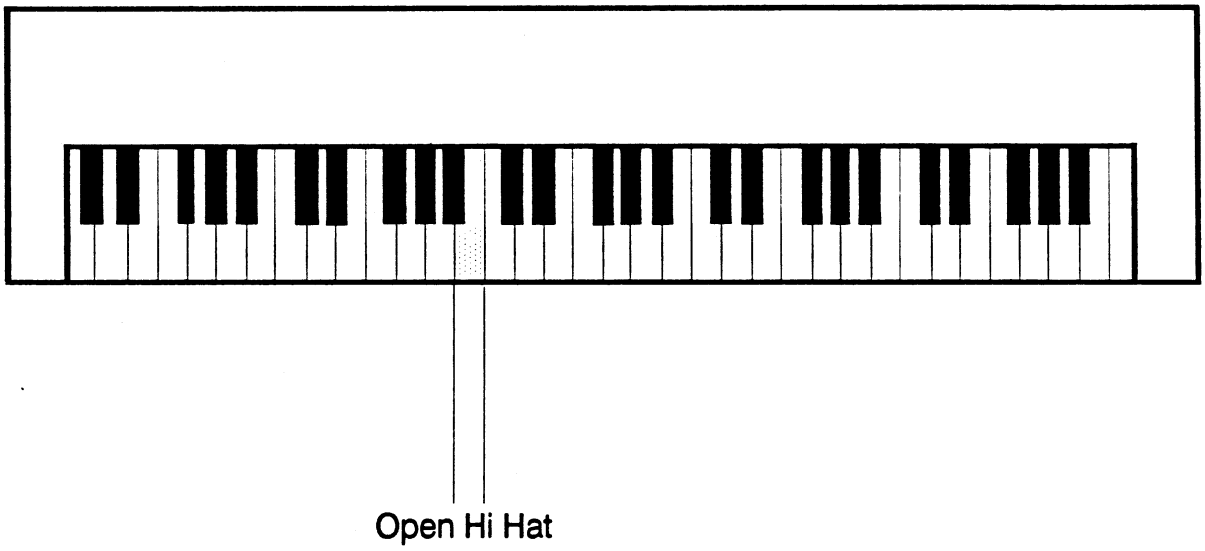
5. The first hihat hit is closed so play the key that triggers the closed hihat. Set the dynamics to *f* to accent beat 1.
6. The measure location should now read*M1 1:24.* Set the dynamics value to *mf and input another closed hihat hit. The location should read M1 2:00.*



7. The next HiHat hit is an open hihat sound. Set the dynamics value to *f and play the key that triggers the open hihat sound:*

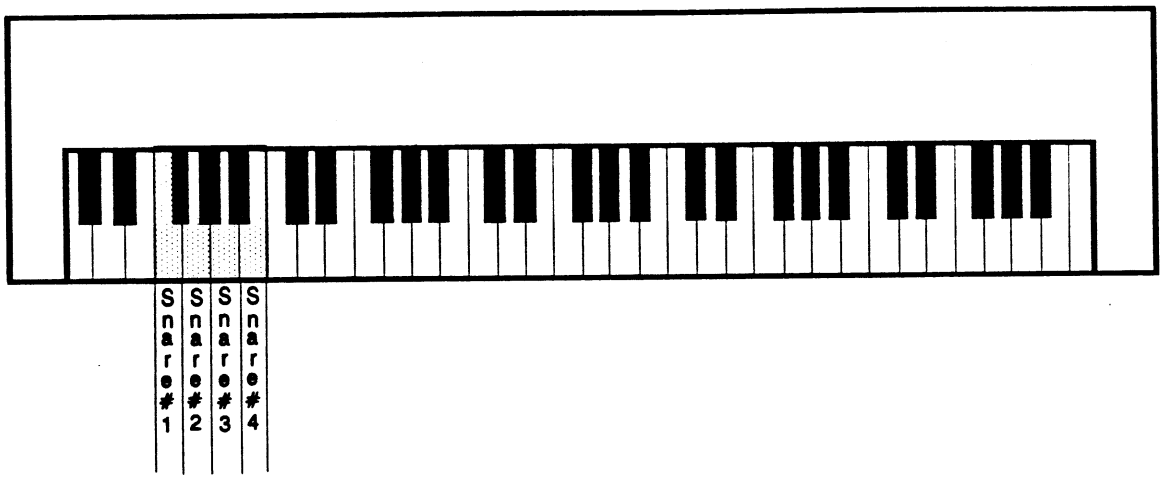
8. The location should read *M1 2:24*. Play the key that triggers the closed hihat sound. The location now is *M1 3:00*.

9. Continue with the beats 3 and 4 in the same manner. Accent only the open hihat sound on beat 4 this time. This will give the pattern a syncopated feel. When you're finished, the location number will have looped around to beat 1 again and read *M1 1:00*.



10. Now for the snare drum which falls on beats 2 and 4. Set the resolution value to *1/4* and then press [RST] to move ahead to *M1 2:00*. Play the key that triggers the snare drum sound:

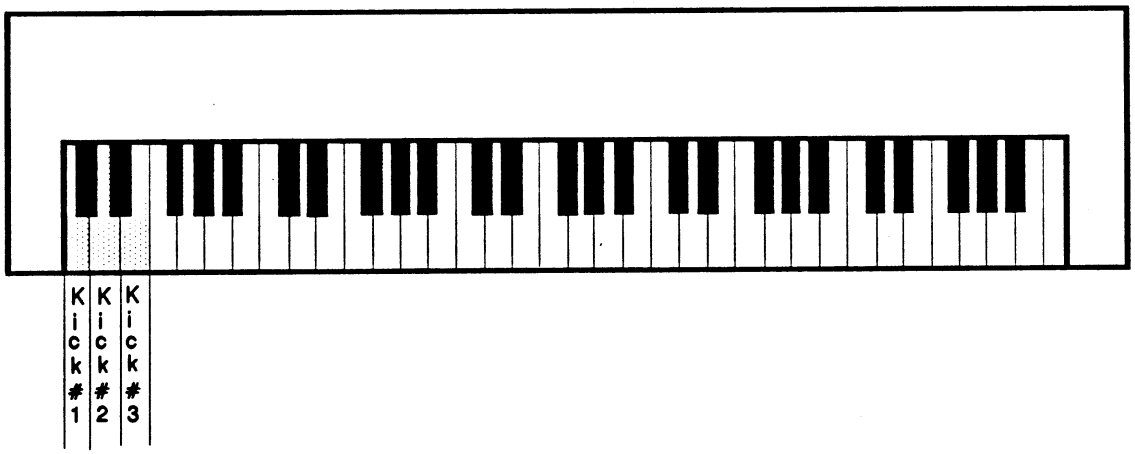
11. The location should read *M1 3:00*. Press [RST] again to move ahead to *M1 4:00*. Play the snare drum key again.



12. Finally we'll input the bass drum part. The bass drum part has a 16th note in the first beat and then 8th notes in the following beats. Set the resolution value to *1/16*.

13. Set the dynamics value to *f* (to accent the first hit on beat 1) and play the key that triggers the bass drum sound:

14. The location should read *M1 1:12*. The next hit is on the 4th 16th note of beat 1. Press [RST] twice to move to *M1 1:36*. Set the dynamics value to *mf* and play the bass drum key again.



15. The rest of the hits are on 8th notes, so change the resolution value to *1/8*. The next bass drum hit is on the "&" of 2. Press [RST] to move ahead to *M1 2:24*. PLay the bass drum key.

16. The location reads *M1 3:00* Set the dynamic value to *f* to accent this beat and play the bass drum key.

17. The location reads *M1 3:24*. Change the dynamic value to *mf* again and play the bass drum key.

18. The last bass drum hit is on the "&" of 4. Press [RST] to move to *M1 4:24* and play the bass drum key.

19. Press [Start/Stop] and then select the *Play/Record* page to listen back to the pattern.

Chapter 5

Inputting Patterns Into Tracks

To hear patterns in a song arrangement, they must be input into a track or tracks. Patterns can be heard in any order you choose, simply by inputting them in the order you want.

Inputting Patterns to Tracks

Recorded patterns can be input on any track at any measure of any song as long as a the destination measures are free from performance data or another pattern. A pattern can't occupy a measure or measures already containing performance or pattern data.

Patterns can exist side by side on the same track, and performance data can precede or follow a pattern.

Pattern 09	Track Data	Pattern 12	Pattern 09

To Input a Pattern into a Track:

1. Select the Put/Copy Pattern Page (Function 5/Page 1).

2. The Input function (PUT) is already selected, so move the cursor to the source pattern field and select the pattern number.

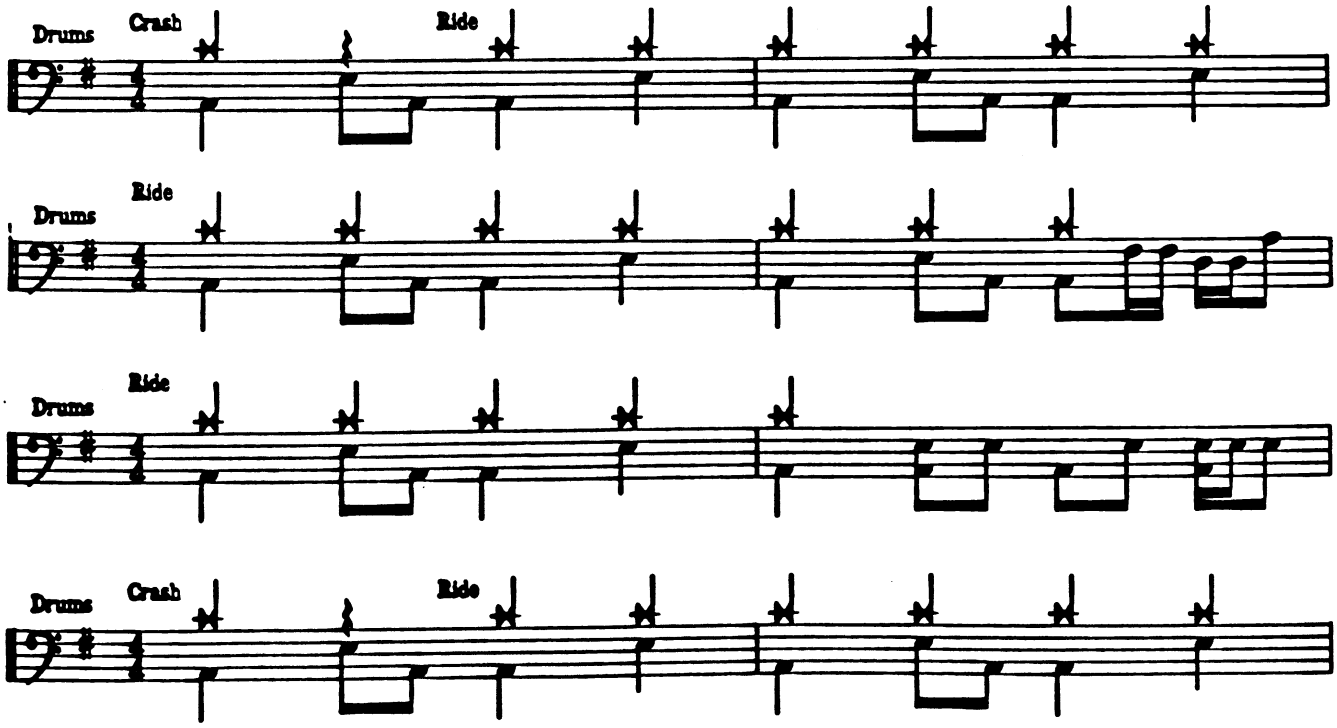
3. Select the destination track and first measure. The measure you select is the measure the pattern starts on.

4. Press [EXEC]. If there's already data on the destination track at the measure specified, the data is replaced in favor of the new pattern, for the entire length of the pattern.

If the Beat value of the pattern and the song don't correspond, the pattern can't be input.

Pattern Record Summary Experiment

I've outlined the general steps to record and input the following 8 bar example onto a track.



1. Take a look at the score and you'll see 4 different 1 bar patterns:

   - Bars 1 and 5 are the same
   - Bars 2, 3, 6 and 7 are the same
   - Bar 4 has a tom fill in beats 3 and 4
   - Bar 8 has a snare drum fill in beat 4.

Select a Sound Program

2. Begin by selecting an empty record track on the *Play/Record* page. Use the [Page +/-] buttons to select the *Track Parameter* page. Select your record track and then pick sound program I09-Drums 1.

Initialize the Pattern Locations

3. Use the [Page +/-] buttons to select the *Pattern Initialize* page. Initialize four separate pattern locations, each with a *Beat* value of 4 and a *Length* of one measure.

4. You can select any pattern location numbers you like but we'll call them patterns 01 - 04 just for convenience.

Record the Patterns

5. Move to either the *Pattern Real Time Record* page or the *Pattern Step Recording* page to record patter 01. Select whichever recording process you like best.

6. Record measure 1 of the musical example into pattern location *01*.

7. After you're finished recording Pattern 01, play the pattern back and then select Pattern 02 for recording.

8. Record measure 2 of the musical example into pattern location *02*.

9. Continue in the same manner by recording measure 4 of the score into pattern location *03* and measure 8 into pattern location *04*.

10. When you're finished pattern recording, you should have the following:

    - Pattern 01 - Measure 1 (and 5) of the musical example.
    - Pattern 02 - Measure 2 (and 3, 6 and 7)

- Pattern 03 - Measure 4 .
- Pattern 04 - Measure 8

Input the Patterns into the Record Track

11. Use the [Page +/-] buttons to select the *Put/Copy Pattern* page. The PUT function is already selected.

12. Press the [C] cursor button and select Pattern 01.

13. Press [E] and select your record track as the destination track.

14. Press [F] and select measure 001 as the first measure. Press [EXEC] to engage the function. The measure number changes to *002*.

15. Select Pattern 02 and press [EXEC] and the measure number changes to 003. Since both measures 2 and 3 of the musical example are pattern 02, we need to insert this pattern again. Press [EXEC] again and the measure number changes to 004 to indicate Pattern 02 has been inserted again.

16. Select Pattern 03 and press [EXEC] to insert it. The measure number reads 005.

17. Measure 5 of the musical example is the same as measure 1 so select Pattern 01 and press [EXEC].

18. Measures 6 and 7 are the same as measures 2 and 3 so select Pattern 02 and press [EXEC] twice. The measure number now reads 008.

19. Select Pattern 04 and press [EXEC] to insert it into measure 8.

Listen Back

20. Use the [Page +/-] buttons to move to the *Play/Record* page and listen to the 8 measure drum track you just created.

Chapter 6

Other Pattern Record Functions

The following functions allow you transfer data from tracks to patterns and vice versa. In the course of the discussion, I refer to some of the Song Record and Event Edit functions not covered in this book. You'll find basic information about Song Record and Event Edit in your M1 owner's manual and for more detailed material, see *M1 - Sequencing and Recording Handbook* also from Alexander Publishing.

Get Pattern

Any section of data on a track that was recorded in Song Record can become a pattern using the Get Pattern function. This is a very handy feature because you can perform all your recording, editing and experimentation in Song record and then transfer the data you'll want to repeat into patterns to create the arrangement.

Many sequencer users find it easier to create a piece of music as a whole and then arrange the pieces in various order later instead of creating the component parts first. This function allows you to do just that.

To Get Data from a Track to a Pattern:

1. Decide what track and what region of data on that track you want to transfer into a pattern. Remember, it can't be longer than eight bars.

2. Initialize a new pattern location (Function 6/Page 3). Set the Beat value to correspond to the Song that data is taken from. Define the number of measures to be copied from the track by setting the length of the pattern.

3. Select the Get Pattern Page (Function 6/Page 4).

Parameters from the left:

4. Select the Source Song number. Data can be taken from any song in the internal memory.

5. Select the Source Track Number.

6. Select the first measure to be copied. The length is defined by the set length of the destination pattern.

7. Select the destination pattern.

8. Press [EXEC]. If there's already data in the destination pattern you'll receive a prompt. Press [Yes] to continue, or [No] to cancel.

The copied data remains on the source track.

Once the data has been transferred to a pattern, it can be overdubbed in Real Time or Step Time record.

Editing Pattern Data

As discussed in Chapter 3, pattern data can be erased in Pattern Real Time Record with the Remove and Erase functions. Although convenient, these functions are basically crude forms of erase, easily accessed during the recording process.

The following list includes all editing functions and how they are applied to the pattern data:

Event Edit

To erase or edit individual MIDI events, select the Event Edit Page (Function 7/Page 1) and define the pattern number to edit. All event editing capability is available for patterns plus tracks.

For detailed information about individual MIDI events and Event Editing procedures see the *M1 - Sequencing and Recording Handbook* from Alexander Publishing.

Change the Length

The Pattern length can't be changed without re-initializing the pattern and destroying all recorded data in the process. It's possible to transfer the data to an empty track, make the edit and then transfer it back to the pattern:

To Insert or Delete measures:

1. Copy the Pattern data to an empty track with Copy Pattern (Function 5/Page 1). See Copy Pattern below.

2. Edit the data with Insert/Delete/Erase (Function 5/Page 3).

3. Reinitialize the pattern location to the new length (Function 6/Page 3).

4. Use Get Pattern (Function 6/Page 4) to transfer the data back to the pattern.

Quantize

Quantize can only be performed to track data and not pattern data. You can accomplish this edit by transferring the pattern data to an empty track, quantize and then transfer it back.

To Quantize Pattern Data:

1. Copy the Pattern data to an empty track with Copy Pattern (Function 5/Page 1).

2. Edit the data with Quantize (Function 5/Page 4).

3. Use Get Pattern (Function 6/Page 4) to transfer the data back to the pattern.

Sound Program/Transpose/Detune/Volume/Panning

When a pattern is inserted into a track, all track parameter assignments set on the Track Parameter Page (Function 4/Page 1) apply to the pattern data as well.

- Sound Program
- Volume
- Transpose
- Detune
- Panning

You can't adjust any of these parameters differently for an individual pattern within a track.

Copy Pattern

This function copies pattern data to the destination track, beginning at a specified measure number. This is most commonly used to edit the pattern data with functions that apply only to track data such as measure insert/delete and quantize.

To Copy Pattern Data to a Track:

1. Select Put/Copy Pattern Page (Function 5/Page 1).

2. Change the page function to (COPY) with the [Up] key.

3. Select the source pattern.

4. Select the destination track and the measure number the copied data begins on.

5. Select [EXEC]. If data exists on the destination track you'll receive a prompt. Press [Yes] to continue, or [No] to cancel.

Chapter 7

Set Up a Drum Kit

This chapter deals with creating your own drum set combination. There are 44 different drum, percussion and cymbal sounds on the M1 which can be collected into 4 separate *Drum Kit* combinations. Each combination can hold 30 *Index Memories*.

Each Index Memory stores these parameters:

- **Instrument** - Select a rhythm sound from the list of 44 different sounds.
- **Key** - Assign the Index memory to one key on the keyboard. This parameter also serves to place the index memory within a playing range that can extend from the defined key to the whole keyboard if you like.
- **Tune** - Set the tuning of the instrument assigned to the index memory. If the playing range of the index memory extends beyond a single key, the keyboard controls tuning as well (high keys produce a higher tuning).
- **Level** - Balance the volume of the index memories with them selves.

- **Decay** - Lengthen or shorten the decay time of the instrument assigned to the index memory.
- **Pan** - Position the index memory to one of 11 panning positions from left to right in the stereo spectrum.

The complete kit can be assigned two processing effects from the listing of 33, from reverb and delay effects to custom EQ, chorusing and flanging.

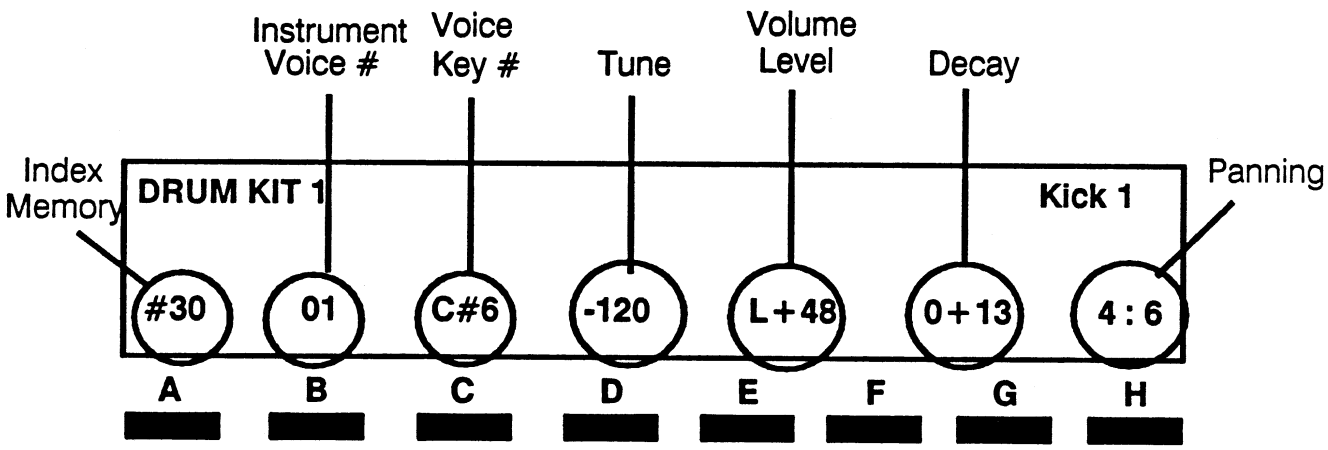
With this kind of versatility you can come up with your own unique drum tracks, using sounds that represent you and your music.

Create or Edit a Drum Kit

The M1 stores 4 separate drum kits which can be arranged in any manner you like. Drum Kits 1 - 3 have been preset at the factory, but these can be changed using any of the parameters we'll be discussing in this chapter. Drum Kit 4 is effectively a blank slate from which to start from scratch.

Read the Display

The four drum kits are accessed in the Global Edit Mode:



1. Press the [Global] button and then use the [Page +/-] buttons to reach the *Drum Kit 1* display page.

Select an Index Memory

2. The cursor is currently under the *Index* field. There are 30 index memories per drum kit (#00 - #29), each storing:

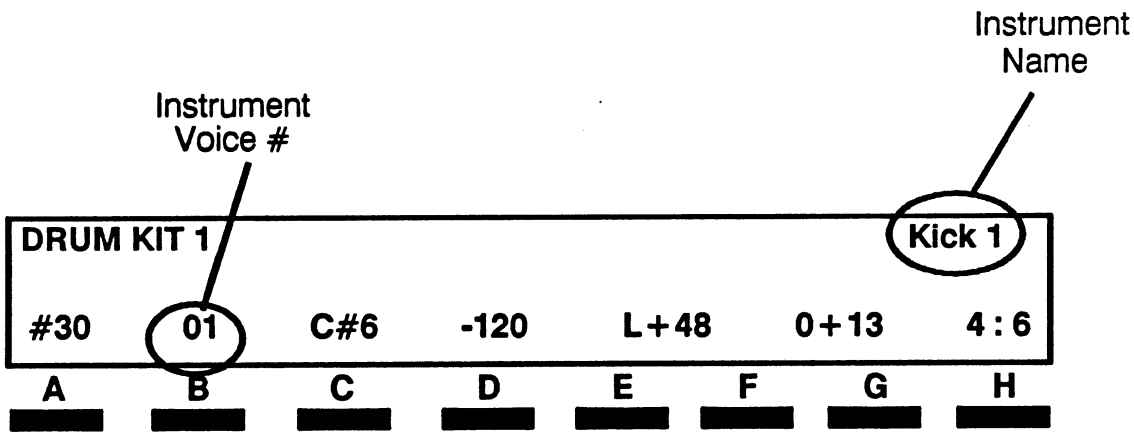
   - Instrument
   - Key assignment
   - Tuning
   - Volume Level
   - Decay setting
   - Panning

3. Use the [Up/Down] buttons to select an index memory.

If you're creating a new Drum Kit, start with memory #00 and address each of parameters discussed below, then work your way up. If you're editing an existing Drum Kit, find the index memory you want to change by scrolling through and watching the instrument name field on the display.

Select an Instrument

You can choose a different instrument sound for each of the 30 index memories. You can also choose the same sound for more than one memory and then set the tuning and decay parameters differently, in effect creating two sounds from on instrument.



Instrument Voices

Voice#	Instrument Name	Description
---	No Assign	OFF
01	Kick 1	Standard Kick
02	Kick 2	Gated Kick
03	Kick 3	Elec. Kick
04	Snare 1	Standard Snare
05	Snare 2	Gated Snare
06	Snare 3	Deep Snare
07	Snare 4	Crack Snare
08	Side Stick	Rim shot
09	Tom 1	Acoustic Lo/Mid Tom
10	Tom 2	Acoustic Hi Tom
11	Closed HiHat 1	Hi frequency
12	Open HiHat 1	Hi frequency
13	Closed HiHat 2	Mid frequency
14	Open HiHat 2	Mid frequency
15	Crash	Crash Cymbal
16	Conga 1	Low Conga
17	Conga 2	Hi Conga
18	Timbales 1	Low Timbales
19	Timbales 2	Hi Timbales
20	Cowbell	
21	Claps	Hand Claps
22	Tambourine	
23	Electric Tom	
24	Ride	Ride Cymbal
25	Rap	Record Scratch
26	Whip	Whip Crack
27	Shaker	Latin shaker
28	Pole	Drum stick striking a metal pole
29	Block	Wood Block
30	Finger Snap	Snapping Pop
31	Drop	Electronic water drop
32	Vibe hit	Short unpitched metal hit
33	Hammer	Metal Hammer click
34	Metal Hit	Metal striking metal
35	Pluck	Hi click
36	Flexatone	Flexatone loop
37	Wind Bell	Several wind bell tones looped

Voice #	Instrument Name	Description
38	Tubular 1	Lo Tubular
39	Tubular 2	Mid/Lo Tubular
40	Tubular 3	Mid/Hi Tubular
41	Tubular 4	Hi Tubular
42	Bell Ring	Bell and clacker loop
43	Metronome 1	Hi Metronome click
44	Metronome 2	Lo Metronome click

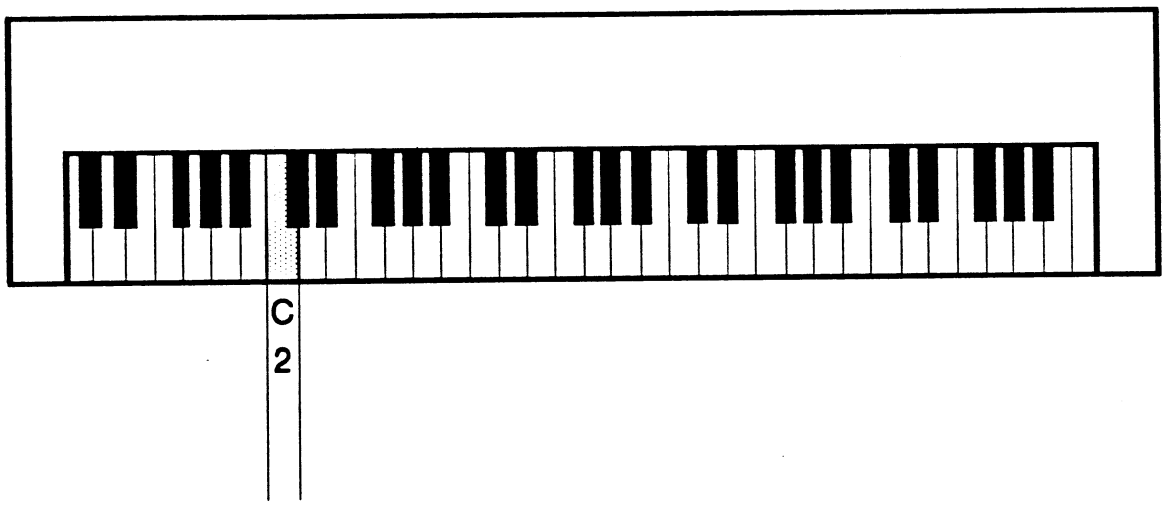
NOTE: "No Assign" does not make a key silent. A "No Assign" key triggers the instrument assigned to the next higher key. For example, if you assigned C3 (middle C) to "No Assign", you'd hear the instrument assigned to C#3 when you played middle C on the keyboard.

Experiment/Listen to the Instrument Voices

1. Press the [Prog] button and select program number 09 - Drums #01.

2. Press the [Global] button and use the [Page +/-] buttons to access the *Drum Kit 4* page on the display.

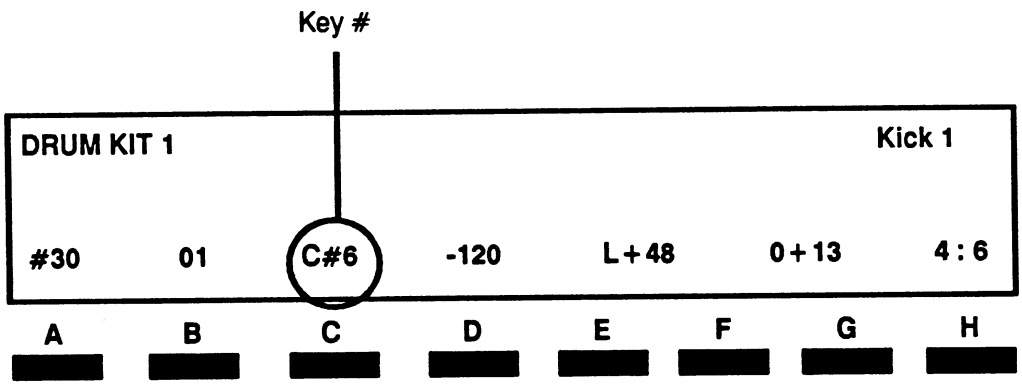
3. All the Index numbers in Drum Kit 4 are currently *No Assign*. *Index #00* is currently assigned to key number *C2*, an octave below middle C.
4. Move the cursor to the *Decay* field and set the value to *-29*.



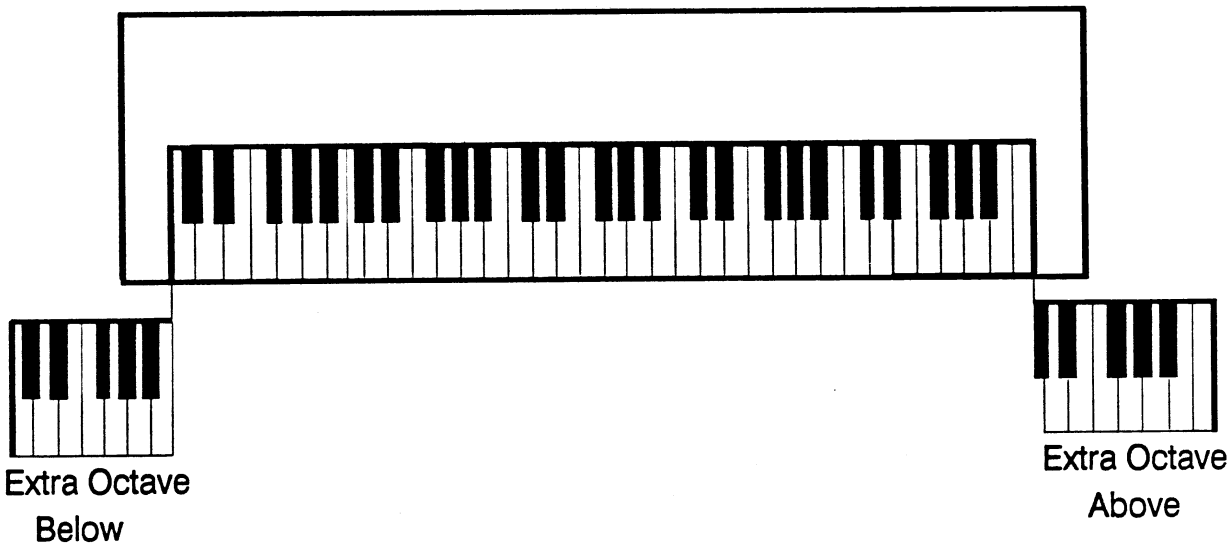
5. Move the cursor to the *Instrument* field and use the [Value] buttons to select each instrument Voice in the list above. Listen to the differences between the various Kick, Snare and HiHat sounds. Listen to each sound carefully and become familiar with the timbres offered in the collection.

Select Key Number

The *Key Number* value is listed according to the MIDI note name scheme. The pitch and the octave are both defined in the note name - C3 = pitch/C, octave/3. The next chromatic pitch above C3 is C#3 and pitch below C3 is B2 (a new octave always begins with C).



The assignable *Key* range for a Drum Kit Index number is from C0 - G8. The reason you can assign key numbers that are outside the M1 keyboard range is for triggering instrument voices with an external MIDI controller.



For instance, MIDI drum pads can be assigned to transmit a selected MIDI note numbers. If you assign the pads to transmit note numbers above or below the range of the M1 keyboard, you can trigger select instruments with the pads and other with the M1 keyboard itself.

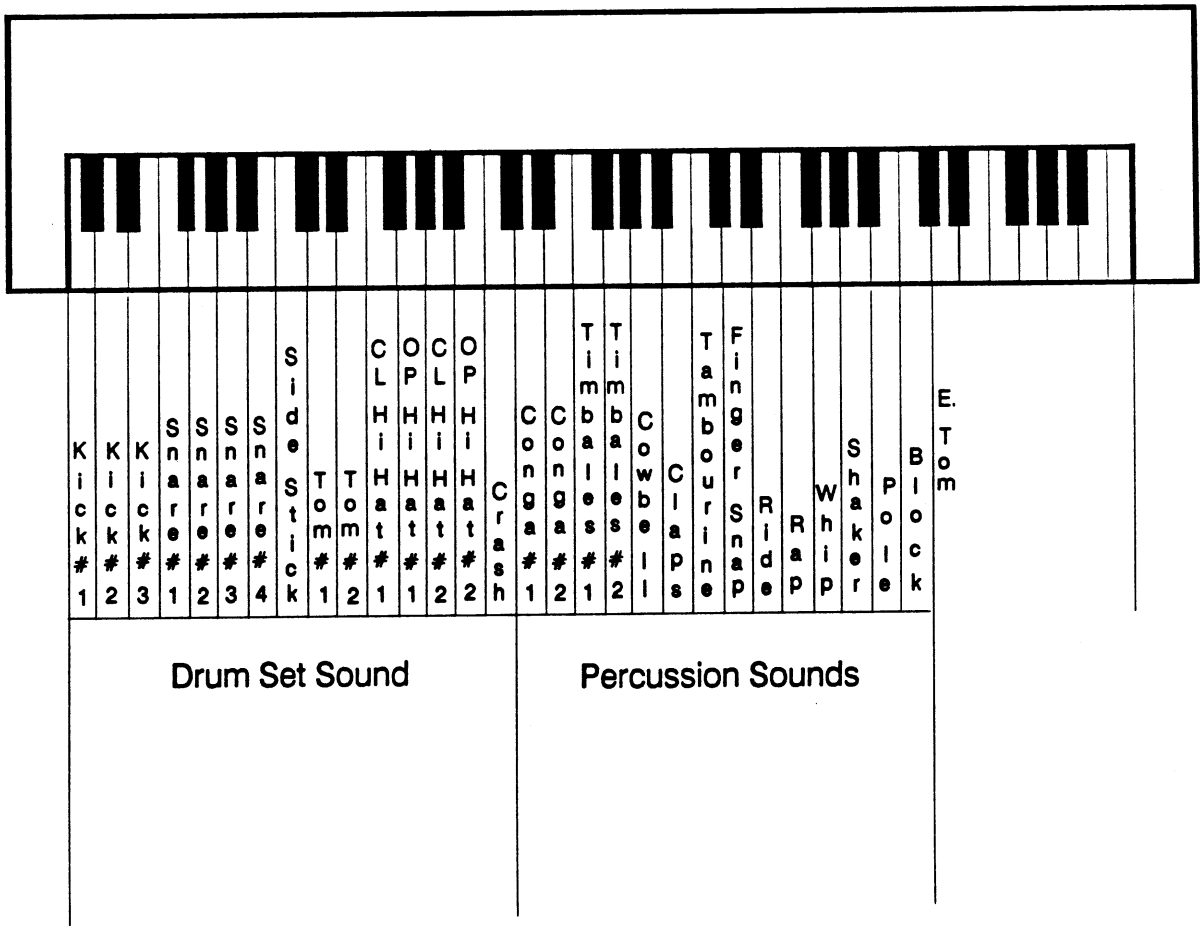
See Chapter 10 - Controlling the Drum Kit Sounds with an External MIDI Controller.

1. Select the *Key* field on the display and use the [Value] buttons to assign a key number to the Index memory.

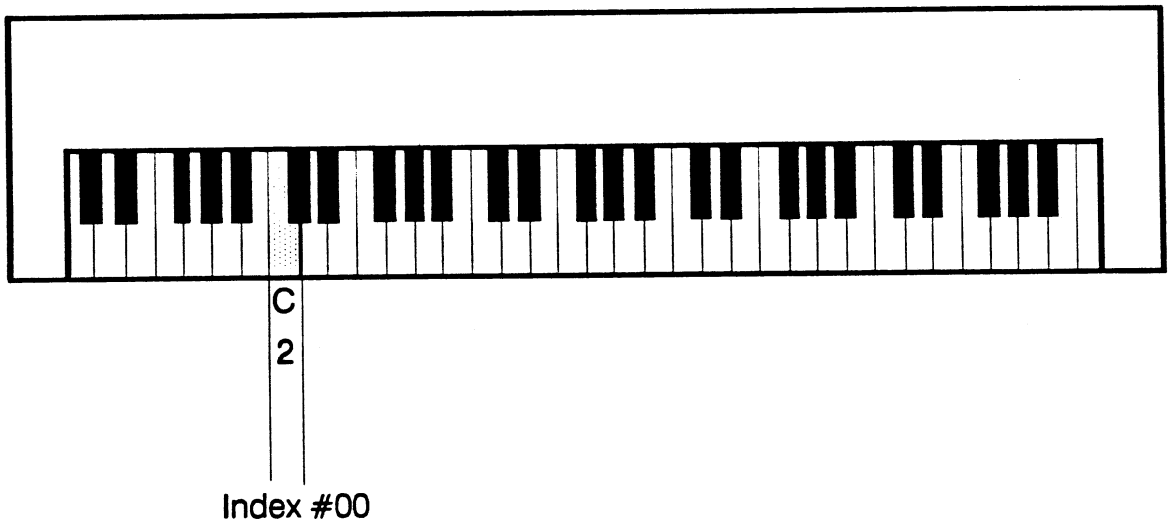
Zoning the Index Memory

The playing range of each index memory in the Drum Kit combination can be specified, ranging from a single key to the entire range of the keyboard if you like. Below is a diagram showing the zoning of each index memory in Drum Kit 1.

The playing range is initially defined by assigning an index memory to a *Key* number. This key becomes the lower boundary of the usable range.

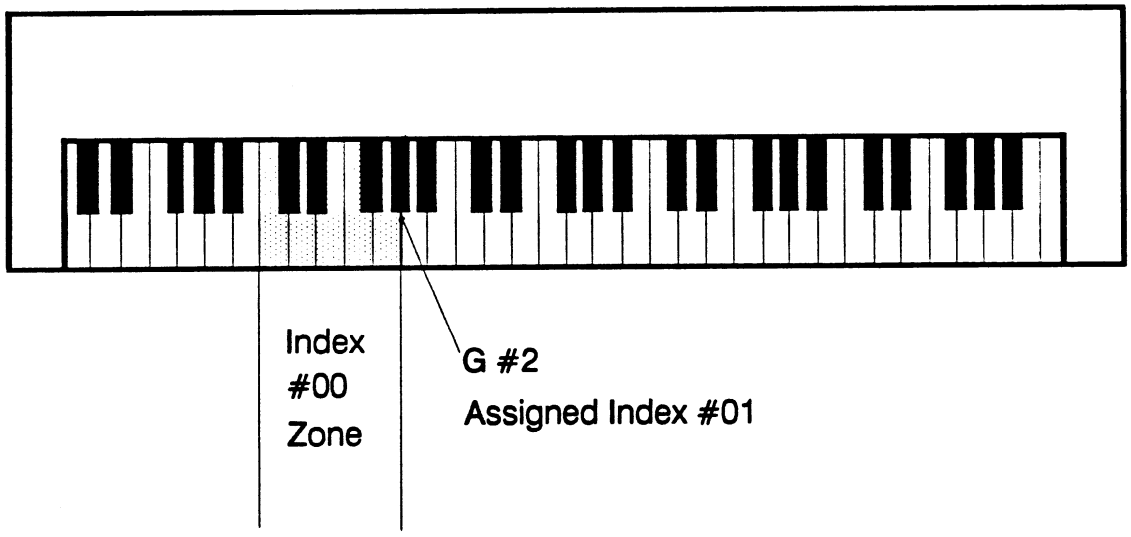


Index #00 - assigned to key C2:



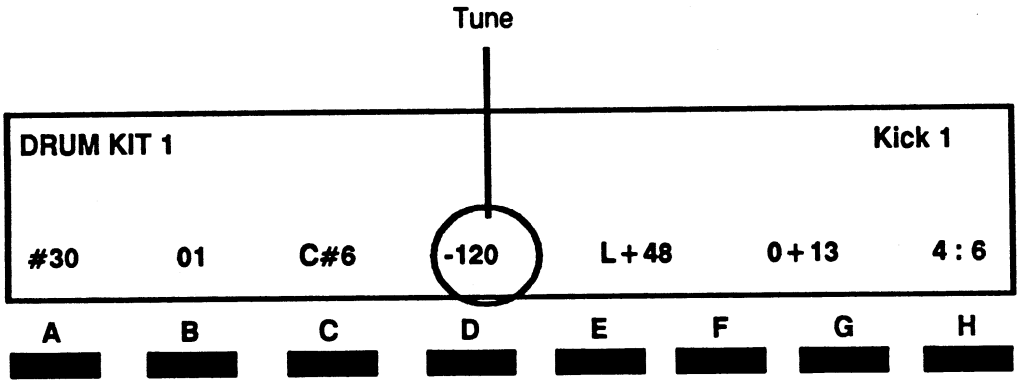
The playing range of this index number extends to the key number assigned to the following index number.

Index #01 - assigned to key G#2:



Within the defined zone, the keys control tuning of the instrument voice, higher keys produce a higher sound.

Tuning

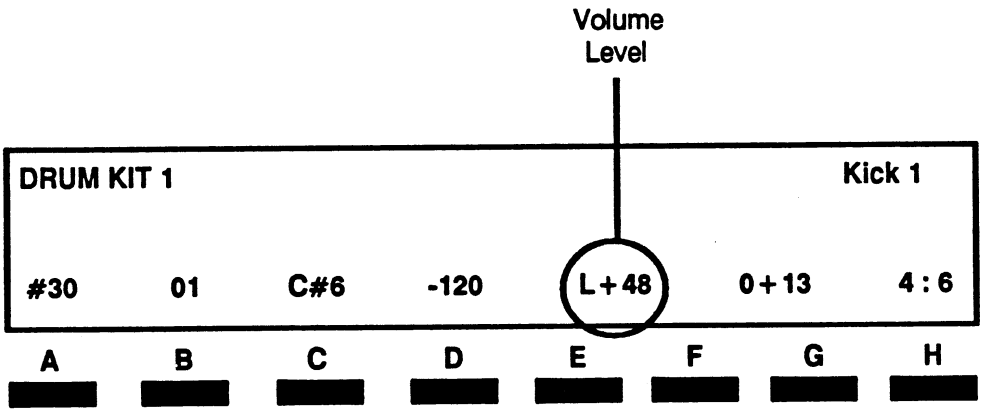


Each index memory can be tuned separately, therefore each instrument in your drum kit combination can be tuned individually. The *Tune* parameter setting defines what you hear when the assigned Key is played. This means you can assign a bass drum to an upper note of the keyboard and if it's tuned down it can actually sound lower than the same bass drum sound assigned to a key at the bottom end of the keyboard.

1. Move the cursor to the *Tune* field and adjust the tuning value within a range of +/-120.

NOTE: The tuning range is considerable so , be careful with extreme values either up or down. The sounds you're working with are digitally recorded samples and when adjusted to the extreme, tend to loose their basic character. That's why some instruments were sampled at different pitches (such as the Toms for instance) so you won't have to tune one sample outside it's natural range.

Level

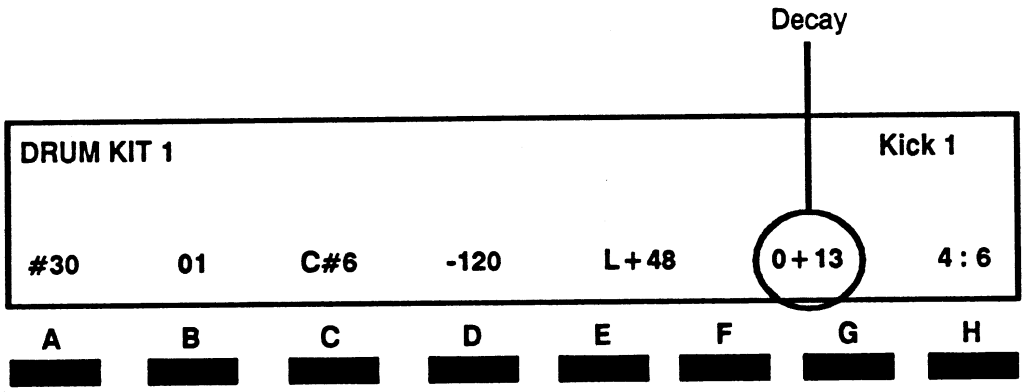


Balance the Index Memory with others in the combination with the *Level* parameter. Using this parameter wisely, you can mix the whole drum track for a song before the sounds ever reach the mixing board. Keep in mind that the dominant drum sounds in most pop/rock music tracks are in the following order:

- Snare Drum
- HiHats
- Bass Drum

The *Level* parameter has a range of +/-99 which means you can apply negative values to some of the naturally louder instruments an create an even mixture for the whole combination.

Decay



The *Decay* parameter defines the length of time it takes for a sound to fade to silence after being struck. You can create a long crash cymbal or wind bell effect by setting the delay time value above *00,* or just the opposite by setting Decay to a negative value.

Cymbal sounds and the Looped sounds (such as Wind Bell or Flexatone) can be lengthened with the Decay parameter, but short, one-shot sounds such as the drum hits cannot be extended beyond their natural length.

1. Move the cursor to the *Instrument* field and select the Crash sound.

2. Move the cursor to the *Decay* field and adjust the value, listening to the results. You'll find that when Decay is set to 00 or above, it takes an inordinate length of time for the sound to fade out completely.

3. Select the Wind Bell and Flexatone sounds and adjust the Decay value. These sounds are loops (the same pattern repeating over and over).

4. Select a short drum sound such as a Tom or Snare and adjust the Decay value. These types of sounds cannot be extended beyond their natural length.

The remaining parameter - PAN is so closely related to the effects processing functions they cannot be discussed separately. Therefore I've reserved a special chapter to cover these subjects.

Chapter 8

Panning & Effects

The final phase in most recording scenarios is panning and effects processing. Skillfully processing the sounds with reverb, delay and chorus effects adds life to otherwise quite ordinary timbres. Flat sounds can be made to sparkle with just a little processing treatment, while other sounds already full of life can be made even more brilliant. The M1 offers 33 different effects, from which two can be chosen for each song.

Panning refers to the placement of sound within the stereo spectrum. On the M1, the 180-degree stereo range is divided into 101 segments from hard left to hard right. Each track can be placed at any one of these divisions.

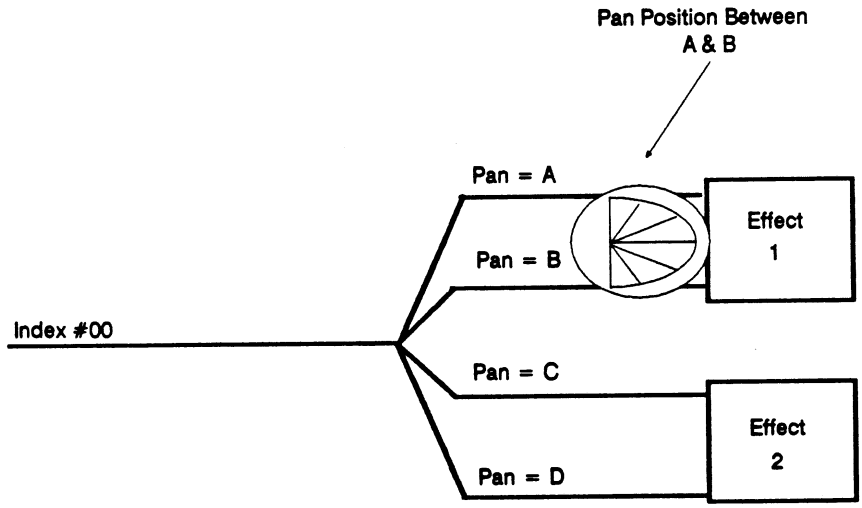
Panning and the Effects are tied so closely together on this machine that it's impossible to consider one without the other. The effects themselves become part of the sound placement equation, which is why they share this chapter. The issue at hand is hinged upon understanding the signal routing possibilities.

We'll begin by following the signal path from Drum Kit to output.

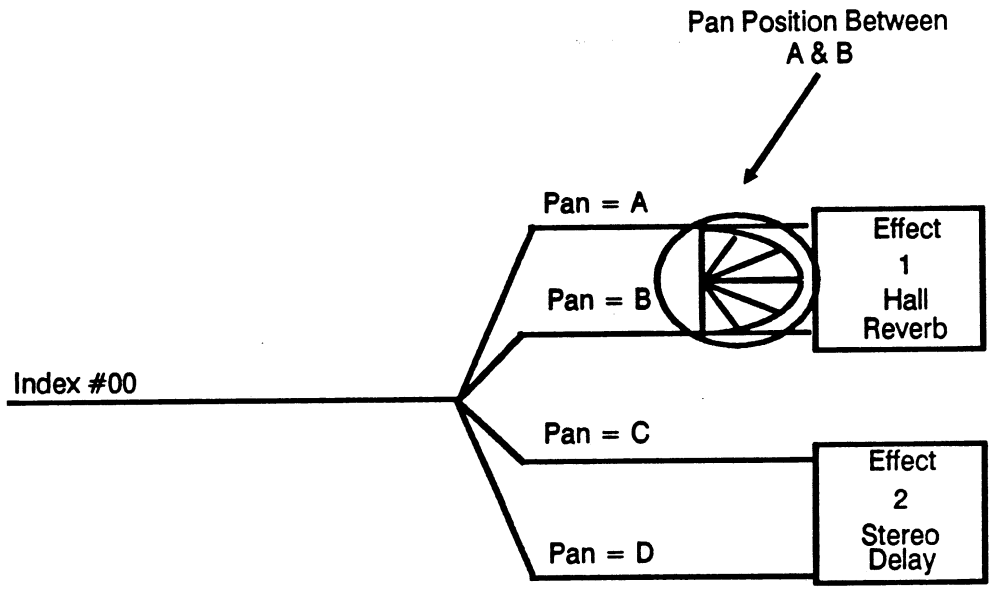
Signal Routing

Panning is actually done in two stages on the M1, before and after the Effect processing. Tracks are assigned to effects inputs and the effects are assigned to the four outputs. When the selection of effect type and balance are considered, the whole picture can be divided into three stages:

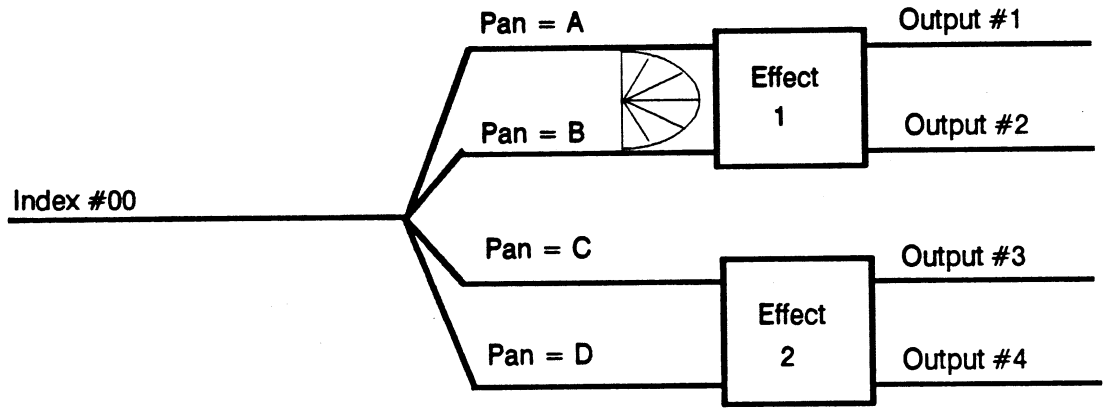
- **Effects Input Assign** - Each Index Memory in a Drum Kit combination is assigned one of four Effects Processor inputs.



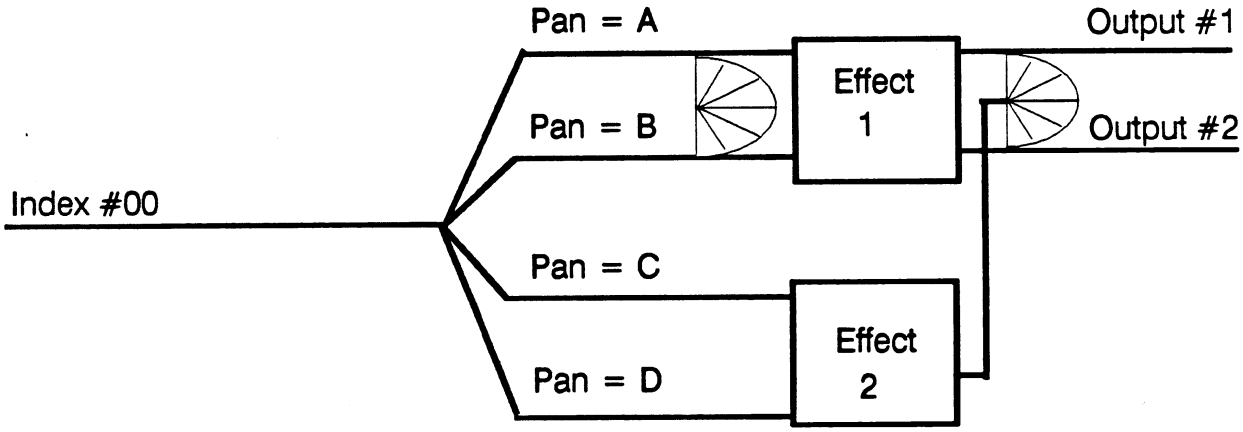
- **Effect Type and Balance** - One of the 33 available effect types is selected for each Effect Processor (there are 2) and the balance of wet to dry is set.



- **Effect 2 Placement** - Effect 2 can be assigned to outputs 3 and 4:



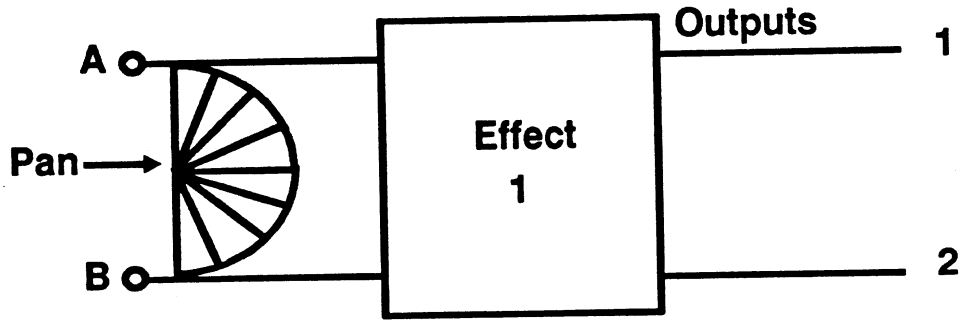
Or panned left and right through Outputs 1 and 2:



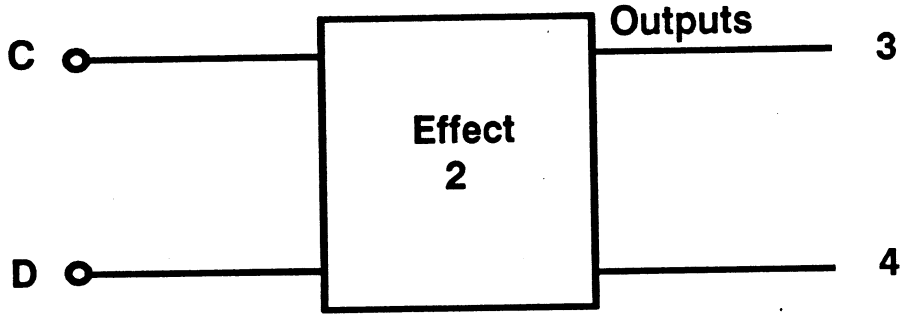
Follow the Signal Path/Stage 1

Index Memories are assigned to just one of four Effects Inputs - A, B, C or D. One of 15 pan positions between input A and input B is also possible. This is done with the Pan parameter on one of the Drum Kit parameter pages.

Assigning an index memory to input A pans the sound to hard left and assigning it to input B pans it hard right and there are nine pan positions between them. These inputs take the sound directly to Effect 1:



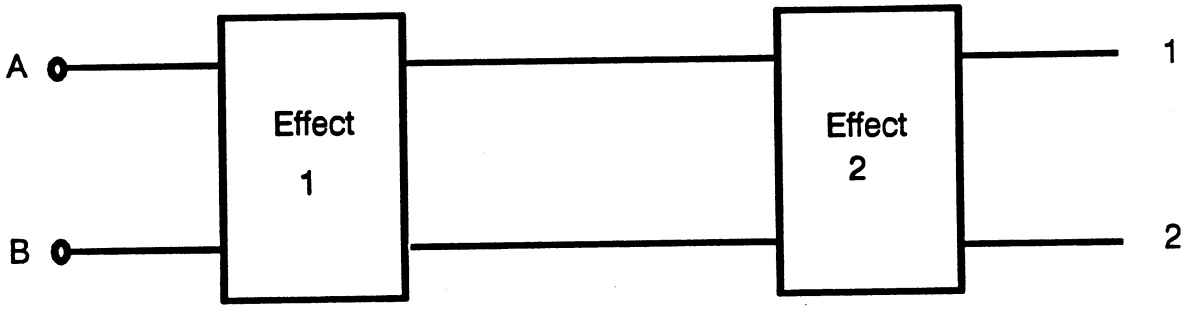
There are no pan positions between effects inputs C and D. Index Memories assigned to these inputs are processed by Effect 2.



Stage 2

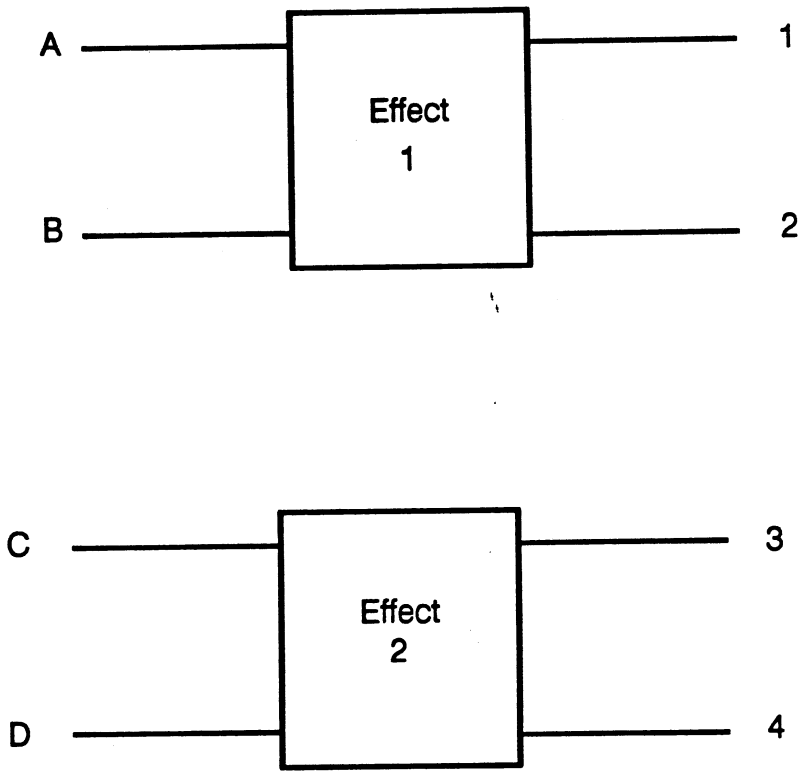
Effects 1 and 2 can be arranged in one of two ways:

In *Serial*, where Effect 2 follows Effect 1...



...Index Memories assigned to A, B or a pan position between them are processed by both effects (this is how all index memories in Drum Kits 1, 2 and 3 are arranged)

The second way the two Effects processors can be arranged is in Parallel:



Stage 3

Finally, in the third stage, Effect 1 is routed directly to outputs 1/L and 2/R, and the index memories assigned to effects inputs A/B are sent through these outputs in stereo.

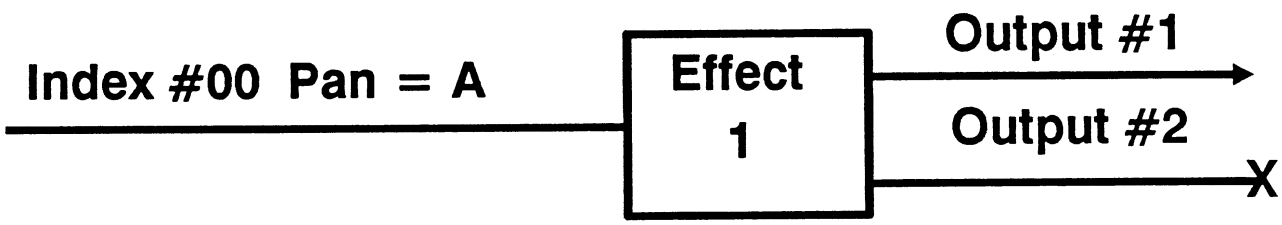
Effect 2 is routed directly to outputs 3 and 4, and the index memories assigned to C and D are sent through these outputs in mono. These mono outputs can be used to direct the signal through external processing effects.

In addition, Effect 2 can be routed to stereo Left and Right (outputs 1 and 2) or 99 pan positions in between!! This is done on the Effects Placement Page in the Edit Program Menu.

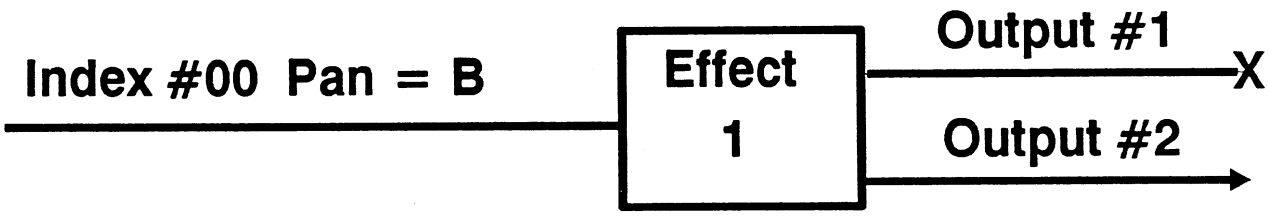
Using Pan Value A, B or a Position in Between

Assigning an index memory to effect inputs A/B allows you to pan the sound to one of 11 stereo pan positions. The sound itself is mono, placed in a stereo field (in other words, the sound occupies one spot in the stereo spectrum).

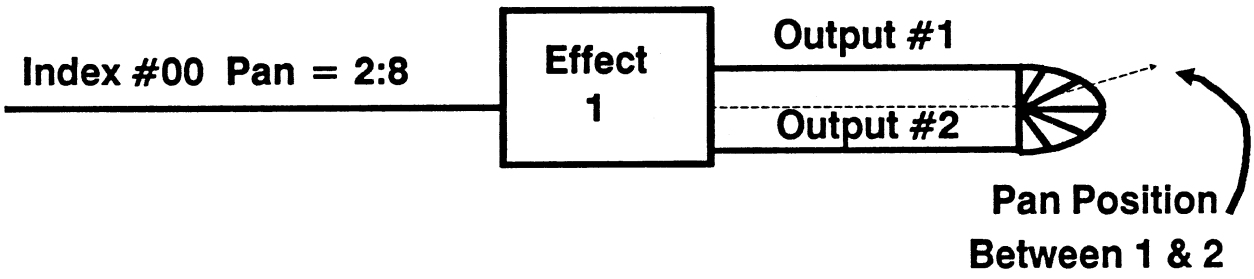
When Pan = A



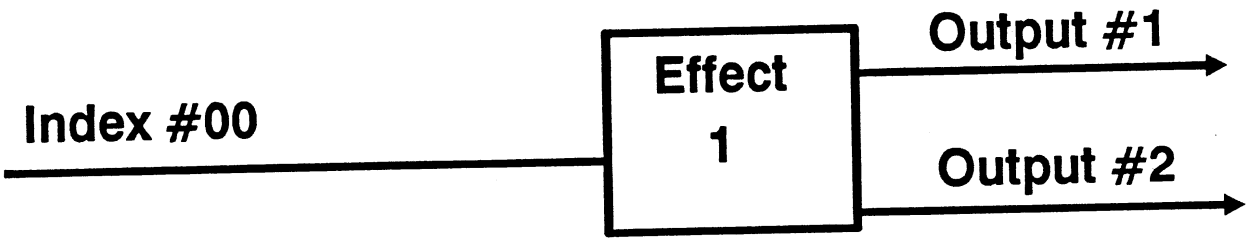
When Pan = B



When Pan = 2:8

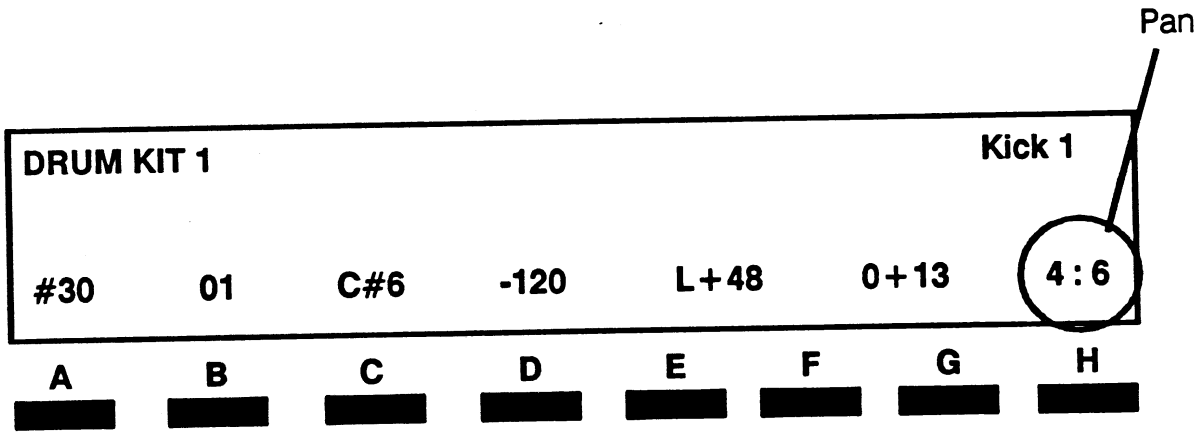


Inputs A and B are processed by Effect 1 in parallel:



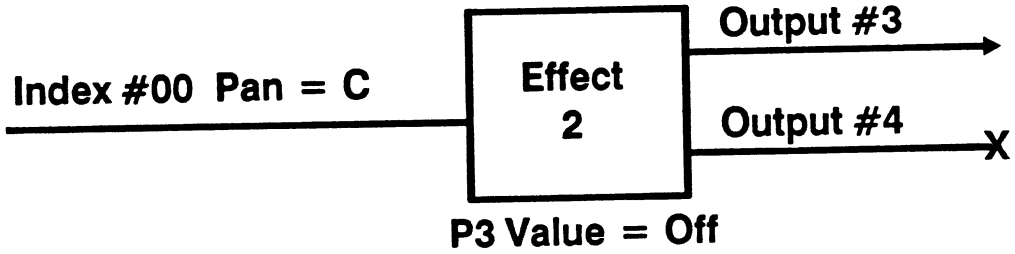
Or by both Effects 1 and 2 when they are arranged in serial:

Panning is accomplished by the Pan parameter in the Drum Kit Pages (Global Menu).

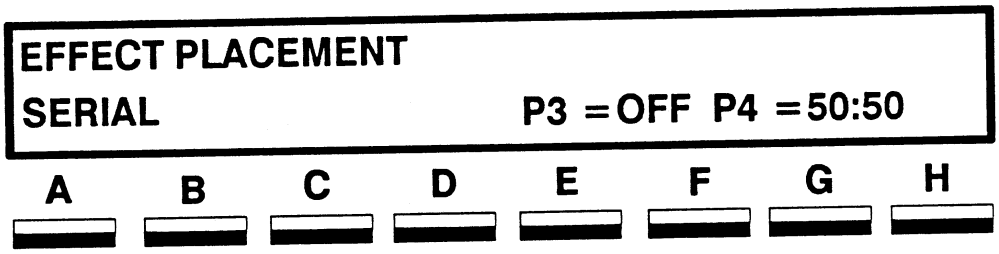


Using Pan Value C

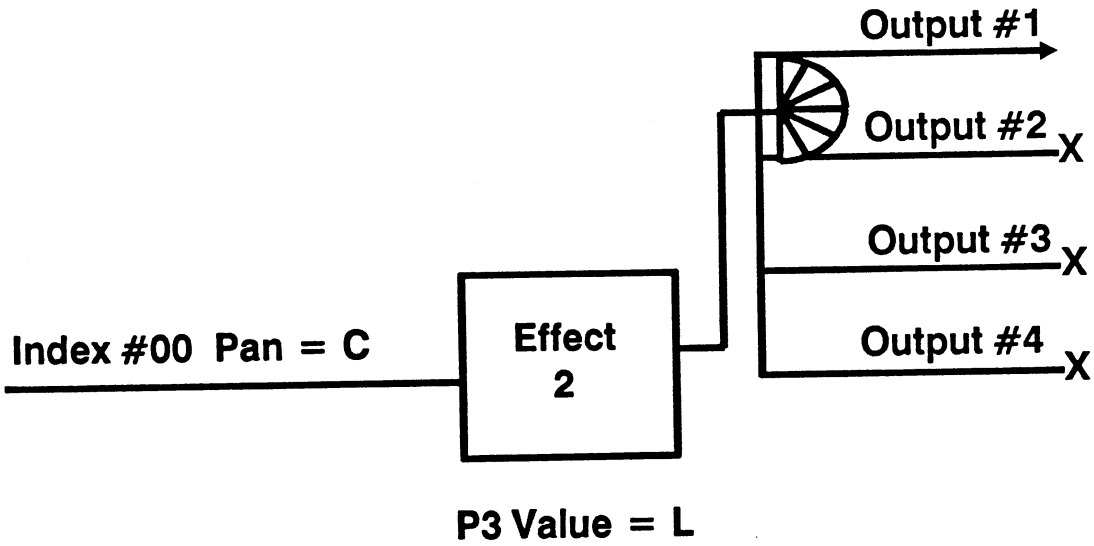
Assigning an index memory to effect input C routes the sound through Effect 2 directly to output 3...



...when the *P3* parameter in the Effect Placement Page is set to OFF:



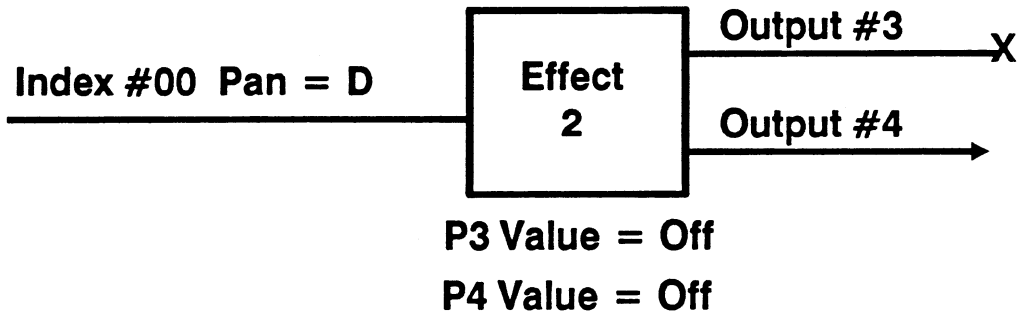
When the P3 parameter in the Effect Placement page is set to *L or R* or a pan positions inbetween, the Index Memory can be sent to a stereo pan position through outputs 1 and 2:



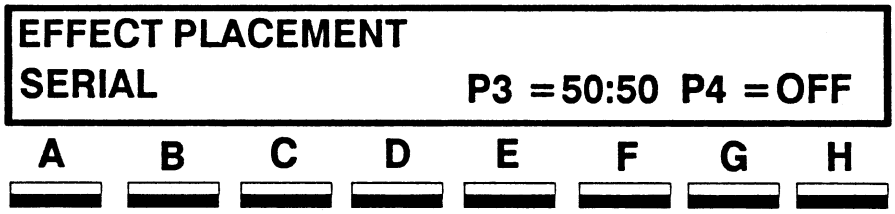
Instead of only 11 pan positions to choose from, you have 111. Again the sound is mono, placed in a stereo field.

Using Pan Value D

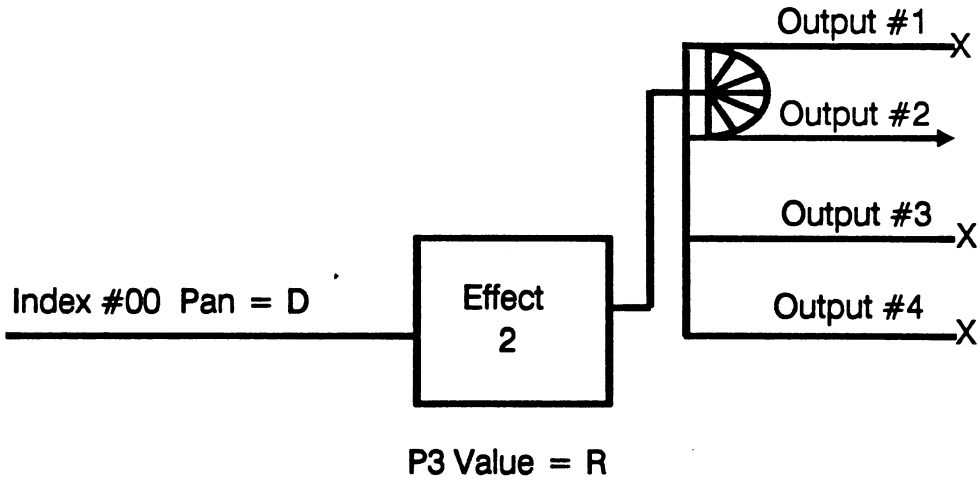
Assigning an index memory to effect input D routes the sound through Effect 2 directly to output 4...



...when the *P4* parameter in the Effect Placement Page is set to OFF:



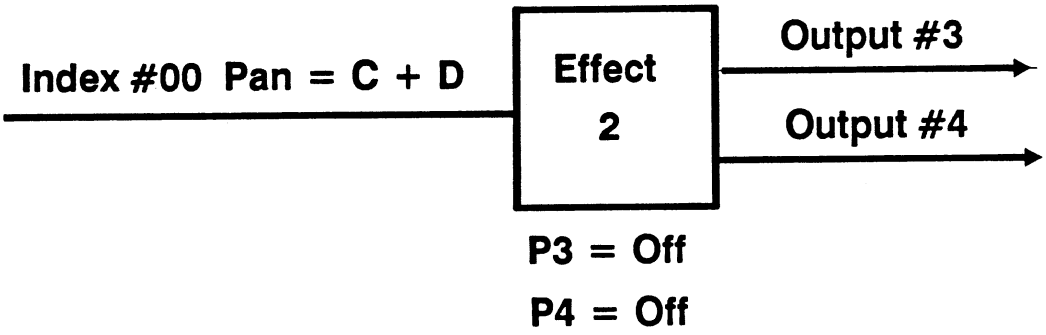
When the P4 parameter in the Effect Placementis set to *L* or *R* or a pan postition in between, the Index memory can be sent to a stereo pan position through outputs 1 and 2:



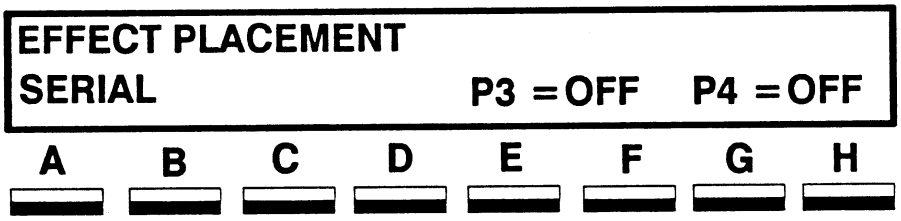
Instead of only 11 pan positions to choose from, you have 111. Again the sound is mono, placed in a stereo field.

Using Pan Value C + D

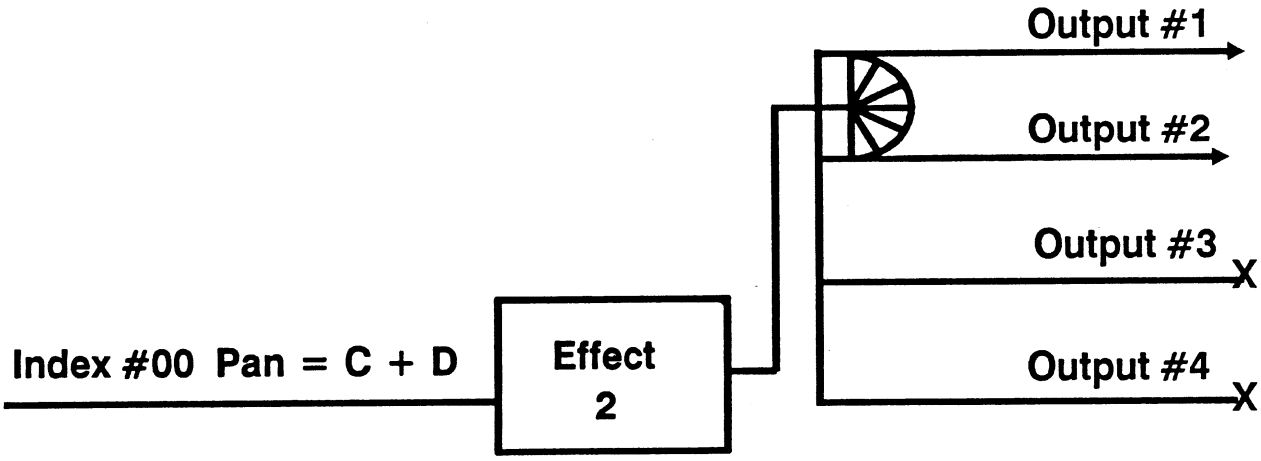
Assigning an index memory to effect inputs C *and* D routes the sound through Effect 2 directly to both outputs 3 and 4...



...when the *P3* and *P4* parameter in the Effects Placement Page are set to OFF:



When the P3 and P4 parameters are set to *L, R* or a pan position in between, the Index memory can be sent to two pan positions through Outputs 1 and 2:



In this case the sound itself is in stereo coming from both the left and the right. Half the sound is on the left (input C) and half on the right (input D).

Assigning the Pan Value and the Effects Parameters Guideline

You should approach panning and effects from the beginning of the signal path to the end.

Effects Input Assign

1. In Global Mode, select a Drum Kit page (Function 4/Page 1, 2, 3 or 4).

2. Select an index memory and move the cursor to the *Pan* parameter and assign the index memory to an effects input from these parameter values:

   - **A** = Processed by Effect 1 and panned hard left.
   - **9:1 - 1:9** = Effect 1 and panned to a position between left and right.
   - **B** = Effect 1 and panned hard right.
   - **C** = Effect 2, routed to output 3.
   - **C + D** = Effect, routed to both outputs 3 and 4 and panned to one of 111 stereo pan positions on the *Effects Placement Page.*
   - **D** = Effect 2, routed to output 4.

Effect 1 Type

1. Press the [Edit Prog] button and select the Effect 1 Page (Function 8/Page 1).

2. Select the effect type from 33 available effects. A complete listing appears on page 46 of your owner's manual.

3. If you don't want any effect at all, select the status parameter to the right of the effect name and turn it to OFF.

Effect 1 Edit

1. Select the Effect 1 Parameter Page (Function 8/Page 2).

2. Adjust the listed parameters to your liking.

It's beyond the scope of this book to detail all the effects parameters. Your owner's manual covers many of the details, complete with visual aids on pages 32 - 47. Look for tips on the effects parameters in the M1 - Sound Programming book from Alexander Publishing.

The Effect 1 type and parameter settings can be copied along with Effect 2 from a Song, Program or Combination (see Effect Copy later this section).

Effect 2 Type/Edit

1. Select the Effect 2 Page (Function 8/Page 3) and select the effect type, or turn the effect off completely.

2. Next select the Effect 2 Parameter Page (Function 8/Page 4) and adjust the parameters (see M1 owner's manual pages 32 - 47).

Effect Copy

The complete Effects setting, including both Effects 1 and 2 and their parameter values, can be copied from another Song, Combination or Program. If you like a particular Effect setting already programmed elsewhere, this is the easiest way to transfer it to the song you're working on.

1. Select the Effect Copy Page (Function 8/Page 6).

2. Select the source type - Song, Combination, Program.

3. Select the source location number - Song 0-9, Combination I00-I99 or Program I00-I99.

4. Select Copy and at the prompt press [Yes] to continue, or [No] to cancel.

Effect Placement

Finally, place the effects in serial or parallel and pan Effect 2 if desired.

1. Select the Effect Placement Page (Function 8/Page 5).

2. Select the arrangement:

- **Serial** - Index Memories assigned to A, B or a pan position between them are processed by both effects. Tracks assigned to C and/or D are processed by Effect 2 only when outputs 3 and 4 are panned Left or Right. They are not processed at all when these outputs are not panned.
- **Parallel** - Tracks assigned to A, B or a pan position between them are processed by Effect 1 only. Tracks assigned to C and/or D are processed by Effect 2.

3. Select the Pan settings for outputs 3 and 4. All tracks assigned to effect input C are passed through output 3, tracks assigned to effect input D are passed through output 4.

- **Off** - At this setting the output is not panned left or right and the signal is sent through output 3 or 4 only.
- **R** - The output is panned hard right through the stereo outputs 1 and 2.
- **L** - The output is panned hard left through the stereo outputs 1 and 2.
- **1:99 - 99:01** - There are 99 pan positions between R and L with 55:45 as direct center. Numbers smaller than 55:45 are closer to right.

Write the Drum Kit to a Program Location

Since the Effects parameters are part of the Program Edit Menu you must write the whole Drum Kit to one of the 100 Program locations. Remember, the program currently in the location you choose as the destination will be replaced by your new Drum Kit program.

1. While in Program Edit Menu, press and hold the [Page +] button until the pages stop scrolling. This is the Write Program display.

2. Select a Memory File location - either *I* for internal memory or *E* for external card memory (if you have a memory card inserted in the card slot).

3. Select a Program location (00 - 99).

4. Name your new program using the cursor buttons ([<] and [ ] on the display) to select a character position and the [Value] buttons to select characters.

5. Press [Write] and at the promt *Are You Sure?*, select [Yes] to write the new program or [No] to cancel.

Panning and Effect Tips

There are countless tricks that can be done with the setup available on the M1. Here are just a few ideas:

Serial Effects

When two effects are possible on the same signal, you have to think about how the second effect alters the sound of both the dry signal (the sound program) and the first effect. For instance, if you wanted to treat the dry signal with both chorus and reverb, the common method places the chorus before the reverb. In this way the signal is fattened by the chorus and this whole sound is placed in a room environment. If you reversed this arrangement you'd get a chorusing effect on the reverb that can be very nice, although unusual. When you use reverb in Serial, place it in Effect 2 unless you're after something out of the ordinary.

A good way to employ Serial Effects is to put an EQ in Effect 1 to boost or cut certain frequencies that can then be processed with reverb, etc., in Effect 2. In reverse, with the EQ following a reverb, you can accentuate the reverb effect frequencies, producing an unusual airy sound.

If you assign index memories to inputs C/D and then pan outputs 3 and 4, these index memories are processed by Effect 2 only when heard through the stereo outputs 1 and 2. In this way you can single out an instrument or two in your drum kit combination to pass through an unusual effect such as Flanger or Overdrive in Effect 1 and then pass through a more ordinary reverb effect in Effect 2 with all the other sounds in your recording.

Even when outputs 3 and 4 are panned, the index memories assigned to inputs C/D still pass through 3 and 4 in mono. When a Serial Effects placement is used, these tracks are heard through outputs 3 and 4 without effects processing and through the stereo outputs with processing.

Parallel Effects

Parallel Effects serve fully separate the index memories assigned to inputs A/B and those assigned to inputs C/D. A/B Index memories are processed by Effect 1 and C/D index memories are processed by Effect 2.

This arrangement can be particularly useful when you want to use more than one reverb setting on the index memories. For example, you can separate a snare drum sound and process it with a longer delay reverb than the rest of the instruments.

Panning outputs 3 and 4 to the stereo outputs doesn't add Effect 2 to Effect 1.

Stereo Instrument Sounds

When an index memory is panned left or right either through inputs A/B or after the effect by panning outputs 3 and 4, the sound itself is mono in a stereo field. You hear the sound coming from one direction.

A single index memory can be heard in *full stereo* by assigning it to both C and D inputs and then panning outputs 3 and 4 hard left and right. You hear the sound coming from both sides and are effectively surrounded by it.

Chapter 9

Syncing Up

In most of today's studio situations, there are many machines all working together to provide the sounds eventually laid down to tape. Timing can be a problem when working with a variety of machines in the same way it is when several musicians all get together and play as an ensemble.

Take the symphony orchestra, for example. If every player was given the freedom to express the music as an individual, the result would be chaos and confusion. The only way all the individual players can think and feel the music as an ensemble is by watching the conductor.

The same goes for MIDI machines. It's simple to hook up a sequencer to several sound modules and expect them to all play together. Sound modules don't have the capability to determine the tempo, or when to start and stop the recording. But if you include a drum machine or another sequencer in the picture, you've got a situation that needs a conductor.

The solution to this problem is MIDI Clock. Just as note and non-note information is sent from master to slave, MIDI clock messages are sent from master to slave to control such functions as tempo and start/stop. The relationship is the same as with other types of MIDI data transmission -- there's one master and a slave or slaves.

When two or more MIDI devices are sending and receiving MIDI clock messages, they are *in SYNC.* All tempo adjustments made on the master are followed by the slave. When you start the master, the slave starts too, and when the master is stopped, the slave stops.

Song Position Pointer (SPP) is an added feature that sends measure numbers plus basic clock information. If both the master and slave are equipped with SPP, you can start playback from any measure in the song from the master and the slave follows. If one or the other is not equipped, this function is not available. In other words, Song Position Pointer only works when both the master and the slave are so equipped.

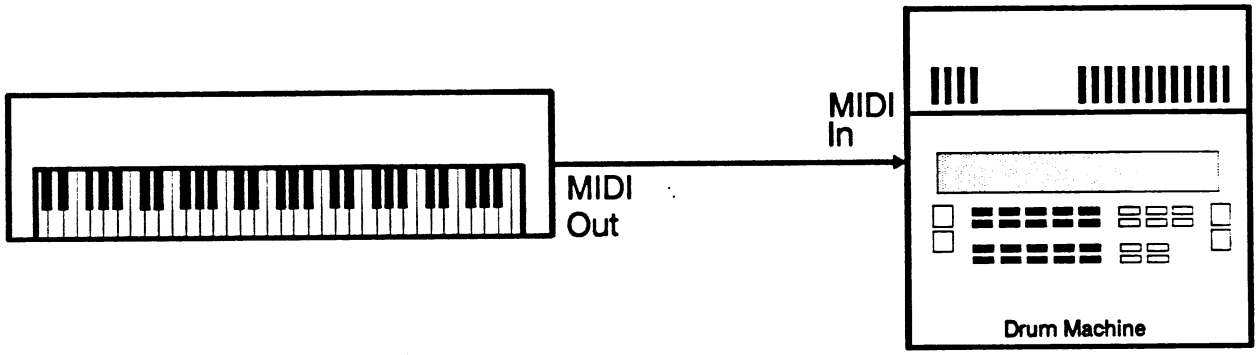
Syncing Up The M1 Thru MIDI

The M1 can control the tempo by sending a MIDI clock to an outside MIDI device, or follow tempo by receiving an external clock from an outside MIDI device.

The M1 as the Master

Sync up an outside MIDI device to the M1:

1. Hook up the M1 as the controller:



2. Set the outside MIDI device to External or MIDI Clock (check its owner's manual).

3. Press Start on the slave device. It won't start, but now waits for a signal to start from the M1.

4. Press [Start/Stop] on the M1 and the outside MIDI device follows. All tempo variations conducted by the M1 are transferred to the slave.
5. When you press [Start/Stop] again on the M1, both machines stop simultaneously.

6. If you start from where you left off, the slave generally follows, even if it's not equipped with SPP. Sometimes the slave automatically goes back to the beginning; it depends on your slave unit.

If the slave unit is also equipped with SPP:

a) Select any measure in the song and wait a brief moment for the slave device to adjust. Press [Start/Stop] and both machines begin playback at the selected measure.

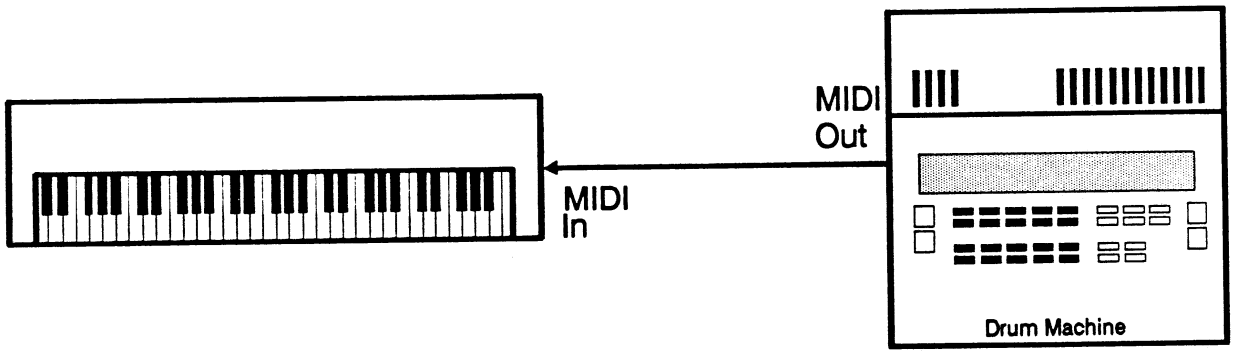
b) If the slave is capable of receiving a Song Select command, it follows a song selection made on the M1. In this way you can program a song order in Chain Play on the M1 and the drum machine or sequencer slave device follows its every move.

NOTE: You can use this method to sync up several drum machines and/or sequencers for live performance applications.

The M1 as the Slave

Sync the M1 to an outside MIDI device:

1. Hook up the M1 as a slave to the outside MIDI device:



2. Set the M1 to receive a MIDI clock from a controlling device by pressing the [Global] button and selecting the MIDI Global Page (Function 5/Page 1). Set the Clock value to EXT.

3. Press START on controller device and the M1 starts as well.

4. Press STOP on the controller device and the M1 stops too.

5. If you stop the controller and restart from the middle of a piece, the M1 follows. Set the controller back to the beginning, and the M1 restarts from the beginning.

If the controller device is equipped with SPP:

a) Select any measure on the controller device and wait a moment for the M1 to select the same measure. Start the controller and both machines begin playback at the selected measure.

b) If the controller is capable of sending a Song Select command, the M1 follows any song selection made.

With the M1 with a Tape Sync Device

We've been discussing the method by which MIDI machines sync to each other, so what happens when you want to bring some "live sounds" into the act, like vocals, guitar, horns etc?

As you know, these sounds can't be recorded on a sequencer, so we're still stuck with the trusty tape machine to record them. Let's say you have a four-track tape machine and you want to add a guitar track and two vocal tracks to a song that you wrote and arranged on the sequencer. You could put all the sequenced parts on the remaining track and then sing along with them, but that would mean all the keyboard sounds and the drum machine would be on one mono track with no way of controlling the mix.

Ideally, you want to keep as many parts as possible that can be played by the sequencer off tape until you're ready for the final mix. In this way, the master mix is as clean and free of fidelity loss as possible (the sequenced parts are playing directly onto the master). This means that you don't actually record the sequenced parts until after you've already laid down the live tracks onto the multitrack.

So how do you get the sequencer to play along with the vocal/guitar tape? If you had the sequencer running while you recorded the live tracks, you'd be hard pressed to start it at the same instant each time, let alone get everything together for the final mix.

Enter Tape Sync!

The M1 is not itself equipped with a sync-to-tape function, but tape sync devices are available at affordable cost that enable you to sync the M1 to tracks on a tape.

Sync the M1 to Tape

Tape sync is a high-pitched tone that the tape sync device records onto one track of a multitrack deck. After laying the tone down, the M1 sequencer can sync to it, accepting start/stop and tempo commands. The tape sync tone becomes the conductor and the sequencer is the slave.

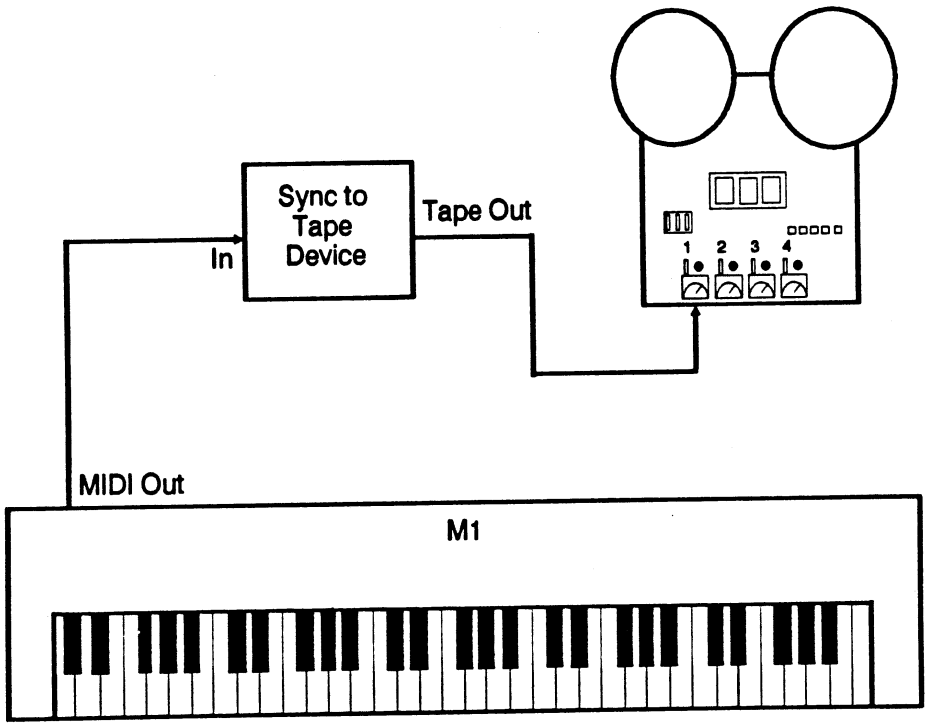
Tape Sync requires that you have a multitrack tape deck because the sync tone requires one track. A simple four-track cassette deck will do.

1. Connect the TAPE OUT jack on your tape sync device to one channel of your multitrack deck. It's best to record the sync tone on an outside track (1 or 4 on a four-track, 1 or 8 on an eight-track, etc.).

2. Once the connection has been made, the sync tone begins sending. Adjust the input level to -3 db on semi-pro gear and -10 db on professional equipment.

3. Don't use Noise Reduction or EQ on the sync tone.

4. Now, connect your M1 to the tape sync device this way:



5. Make sure the tempo is set on the M1. Once the sync tone has been laid down, the tempo can't be changed without recording another sync tone.

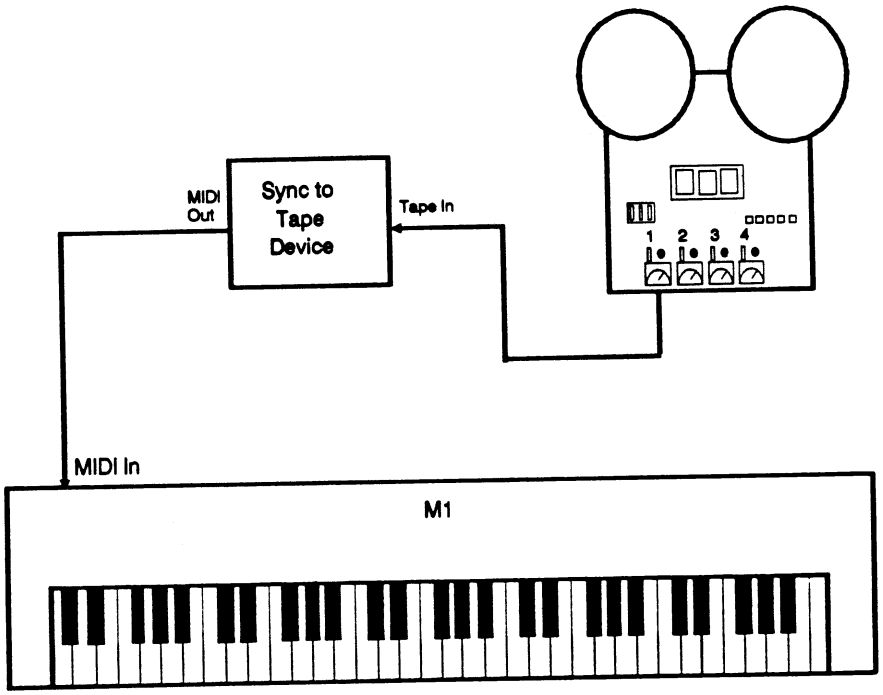
6. Start rolling tape and give it about 5 seconds before you press [Start/Stop] on the M1. If you're monitoring the sound, the tone changes in frequency when you start the M1.

7. All programmed tempo changes become part of the sync track's tempo.

8. When the song is finished, the M1 stops.

Now, sync the M1 to the tone you just laid on tape.

1. Connect the sync tone track output on your tape machine to the TAPE IN jack on your tape sync device.



2. Set the M1 to receive an external MIDI Clock by pressing the [Global] button, selecting the MIDI Global Page (Function 5/Page 1) and setting the Clock parameter to EXT.

3. Rewind the tape and play it back. After the leader tone, the M1 starts. You can record tracks on the sequencer by pressing [Rec] before starting the tape machine.

4. Don't record any high-frequency instruments on the track adjoining the sync tone (cymbals, bells, etc.). Also, avoid instruments that are high in transients (high to low in volume), like a kick drum, on the adjoining track.

NOTE: You must always start the tape at the beginning of the sync tone. Starting in the middle of the track only starts the M1 from wherever it's currently set.

NOTE: Different machines lay down different sync-to-tape timing codes. Your tape sync device can't read a sync tone laid down by a device of another make and model. It can read the sync tone laid down by another device of the same make and model, however.

Chapter 10

Additional Features

There are two important functions that have not been addressed as yet. I've reserved them for this addendum chapter because they deserve particular attention. They are programmable tempo and multi-channel recording.

Programmable Tempo

Tempo variations are key to expressive music. Of course, this depends on the music genre. Dance music for instance maintains a constant tempo and so does most pop/rock music, but occasionally there are even exceptions to these rules. Most instrumental music including varying styles ranging from orchestral to jazz employ tempo variations as a form of expression.

You can program subtle tempo variations into the M1 sequencer in two ways - Real Time and in Event Edit.

Real Time Tempo Changes

After setting the Basic Tempo of a Song, the tempo can be changed as the sequence plays using the Data Slider. If the sequencer is recording as these tempo changes are made, they are recorded onto the selected Record Track.

1. On the Record/Play Page, select an empty Record Track and press [Rec].

2. Press [Start/Stop] and as the sequencer records, change the tempo value with the Data Slider or [Up/Down] buttons.

3. After recording the changes, they can be edited in Event Edit Mode (see Tempo/Event Edit Mode below).

4. When you're satisfied with the tempo changes, you can Bounce the tempo track to any track containing recorded data (such as a track containing all the drum part Patterns). You can still edit the tempo changes after they've been bounced in Event Edit Mode (tempo change data is on it's own Control Change number - CC# 107).

Editing and Inserting Tempo Changes

You can edit tempo changes recorded in Real Time or insert new tempo changes one at a time in Event Edit Mode. Tempo changes can be inserted into any track containing data without disturbing the data already there.

1. Select the Event Edit Page (Function 7/Page 1).

2. Select the track you want to edit or input tempo changes onto. Press [Rec] and [Start/Stop] and the Event Edit display comes up on the screen.

3. The tempo change data is listed as Control Change number 107 with a value range from 00 - 127.

NOTE: The value is represented in standard MIDI MSB (most significant byte) degrees and doesn't represent the number of beats per minute. The ratio between the event value that's displayed on the screen and the actual number of beats per minute can vary with regard to Basic Tempo setting. On the average it's one beat per minute degree for every two MIDI values. A value of 64 means no change to the Basic Tempo. Values higher than 64 increase the tempo while those below 64 slow the tempo.

4. Edit existing tempo changes by adjusting the value.

5. Insert Tempo Changes by pressing [INS] and then:

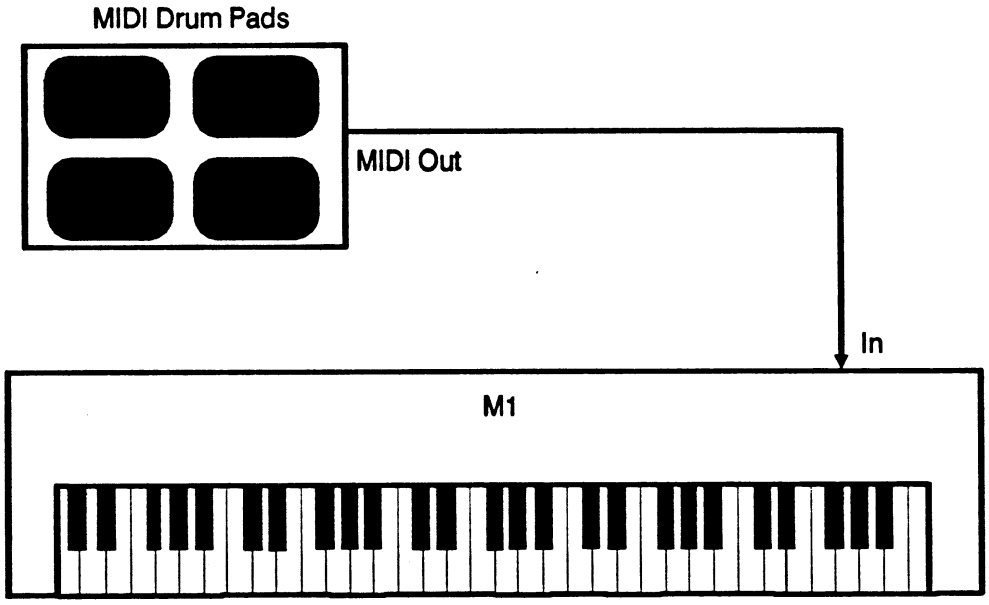
- Change the data type to CTRL (Control)
- Select Control Change number to 107
- Specify the controller value from 0 - 127 (64 represents no change to the basic tempo setting).

Controlling the Drum Kit Sounds from an External Controller

The M1 keyboard is the most convenient and also most versatile keyboard controller you can use when playing or recording the internal drum kit sounds. However, there are common drumming techniques that are impossible to play from a keyboard controller, such as rolls and flams. You can simulate these techniques by recording in Real Time at a very slow tempo or inputting hits at a 32nd note resolution value in Step Record, but these methods are mere simulations. To get accurate drum techniques, you must use a MIDI Drum Pad controller.

Hook Up

Connect a MIDI Drum Pad controller to the M1 like this:



1. The first thing you must do is match the transmit MIDI channel on the controller to the receive channel of just one track on the M1.

2. To simply play the M1 instrument voices from the pads, press the [Prog] button and select a Drum program (09, 20 or 49).

3. Next, to match the MIDI channels, press the [Global] button and use the [Page +/-] buttons to select the *MIDI Global* page.

4. Set the *Channel* parameter to the same channel as the transmit channel on your Drum Pad Controller.

5. To record a Pattern or Track using the MIDI drum pads you must match the transmit channel of your pad controller to a receive channel of a record track in the sequencer section of the M1.

6. Press the [Seq] button and select a record track.

7. Select the *Track MIDI Channel* page with the [Page +/-] buttons. Pick your record track with the cursor buttons and match the MIDI channel number with the transmit channel on your Drum Pad controller.

8. Use the [Page +/-] buttons to select the *Track Parameter* page and select one of the Drum Kit sound programs. Set the

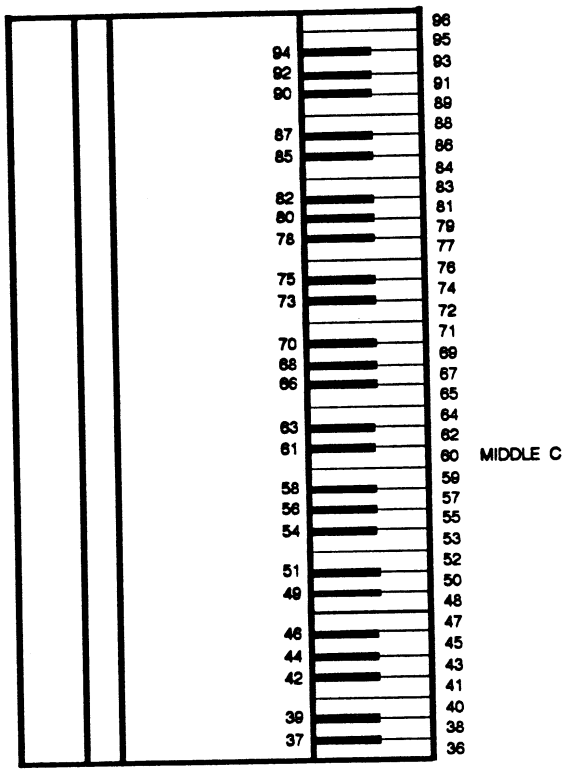
MIDI Note Numbers

There are several variations of MIDI Drum Pads on the market today and the best ones allow you to select the MIDI note number a Pad will transmit. By setting the Pad to transmit the same note number as a particular key on the M1 keyboard, the pad then triggers the same sound as the key.

In MIDI, a separate name and number is given to every chromatic note in the scale. This makes it possible to play a note on a MIDI controller and hear the same note produced by the sound module. The names you're already familiar with by assigning index memories to key names. MIDI note numbers correspond to these names and range from *0 - 127*. Middle C is defined as *C3 - 60* for instance.

Please See Next Page

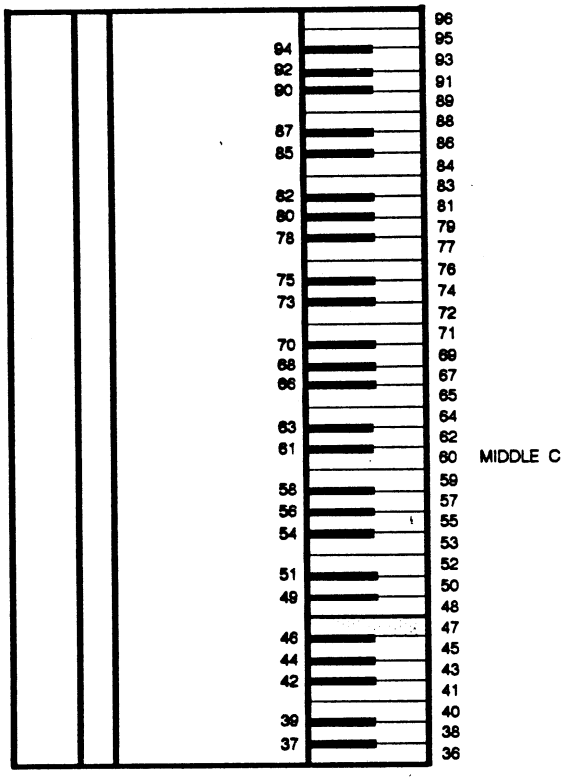
Take a look at this diagram of your M1 keyboard. All the notes are numbered from 36 - 96.



To trigger a particular instrument voice in a drum kit on the M1, all you do is match the note number your controller is transmitting to the key on the keyboard that triggers that same sound.

For instance, if you wanted to trigger the Snare 4 sound in Drum Kit 1 (Sound program 09 - Drums 1) you set your pad to transmit note number 47:

See example on next page.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MIDDLE C
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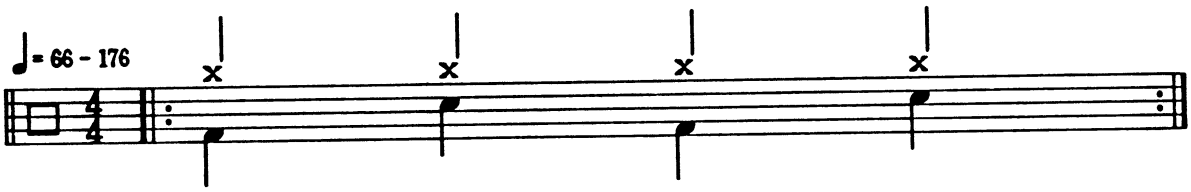
36

Authentic Drum Patterns

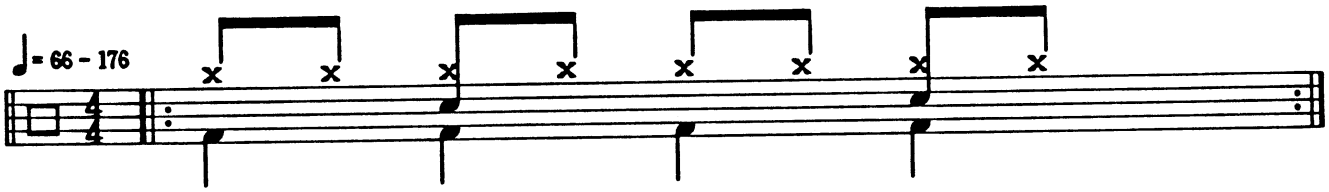
On the pages following are authentic drum patterns used by drummers. These patterns were notated by Jack Verga, a true gentleman, teacher and scholar in the art of drumming.

Basic Pop/Rock

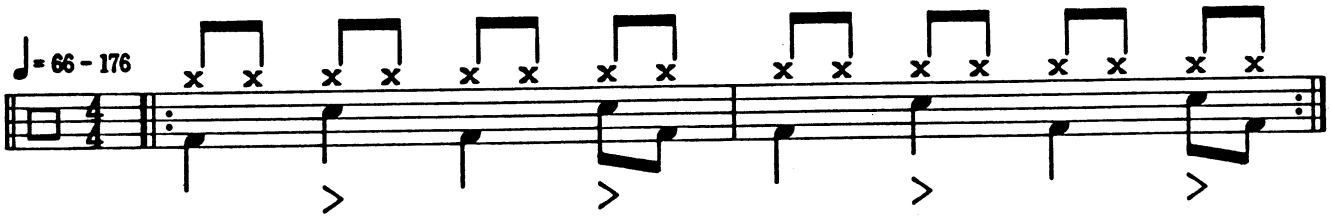
BASIC ROCK/POP

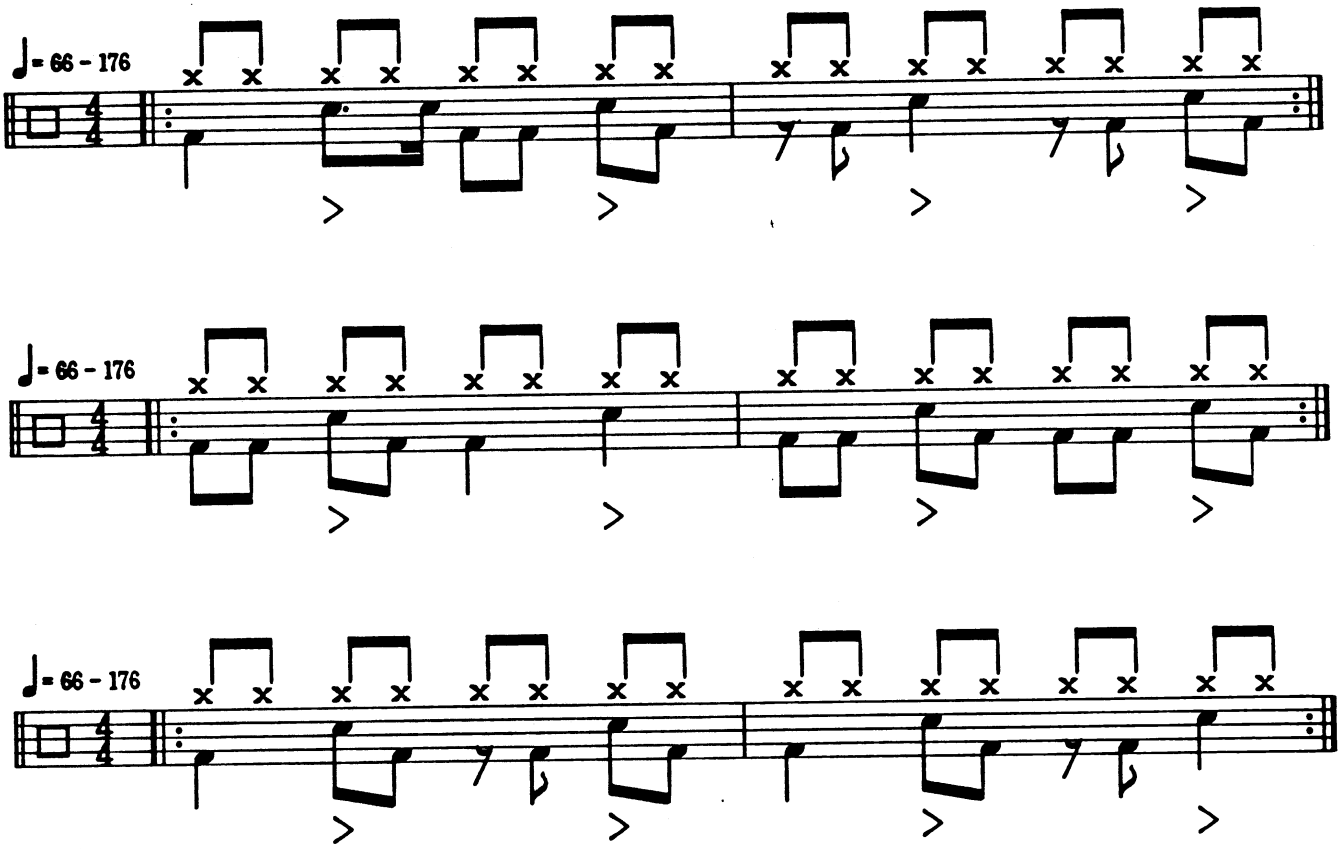


BASIC ROCK/POP



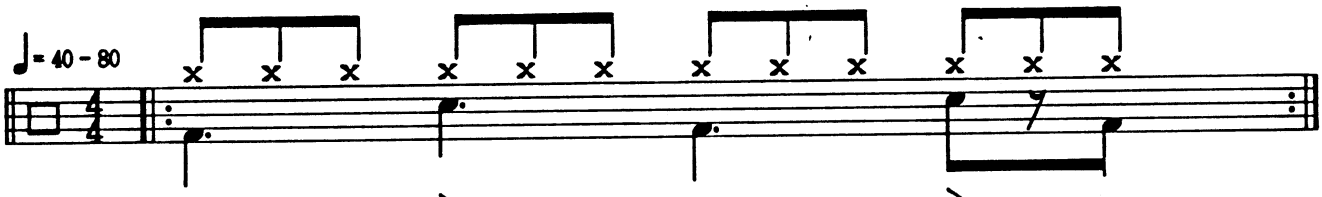
BASIC ROCK



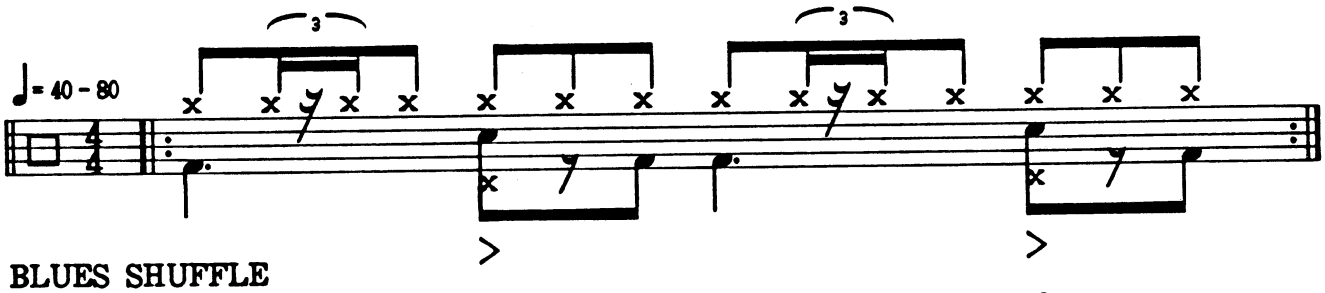

♩= 66 - 176
♩= 66 - 176
♩= 66 - 176

The Blues

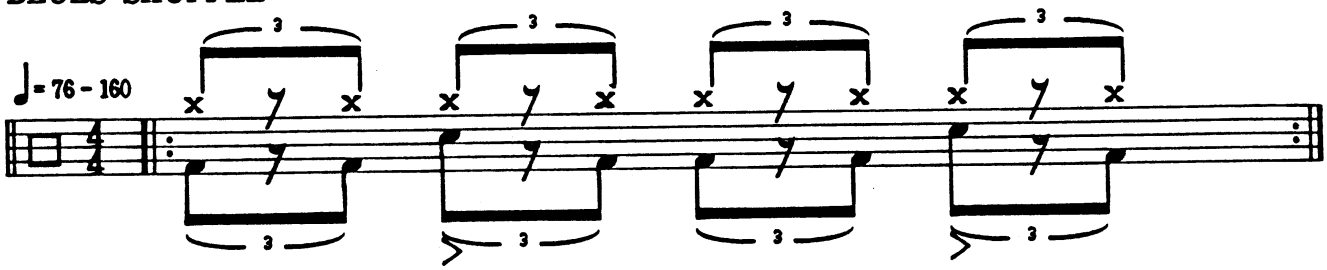
TRADITIONAL SLOW BLUES

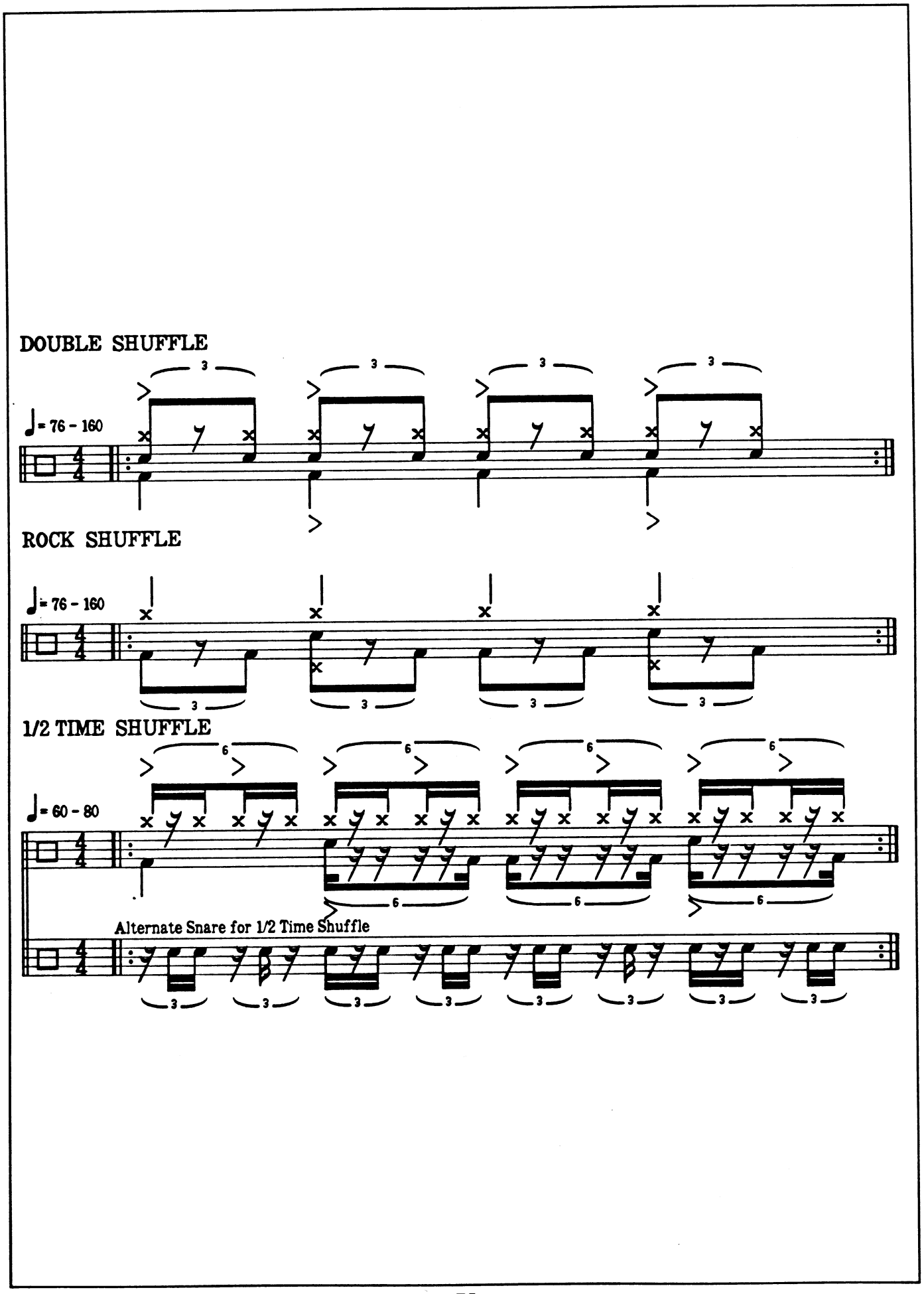


MODERN SLOW BLUES



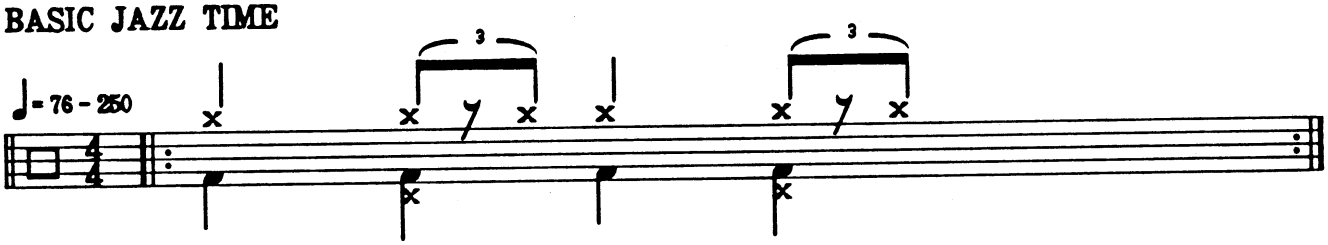
BLUES SHUFFLE



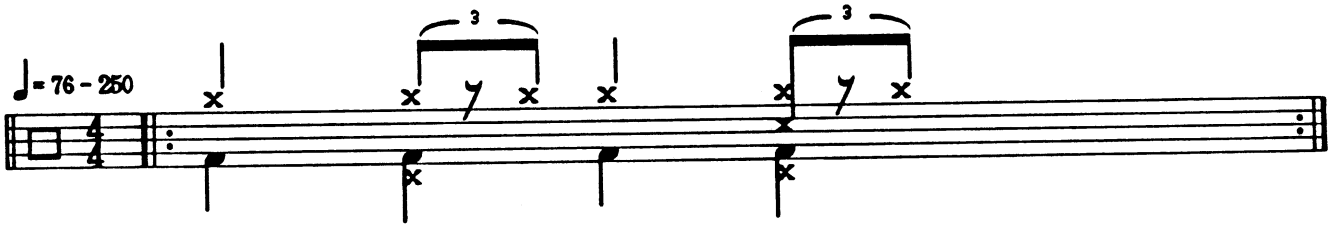

DOUBLE SHUFFLE
♩= 76 - 160
ROCK SHUFFLE
♩= 76 - 160
1/2 TIME SHUFFLE
♩= 60 - 80
Alternate Snare for 1/2 Time Shuffle

Jazz

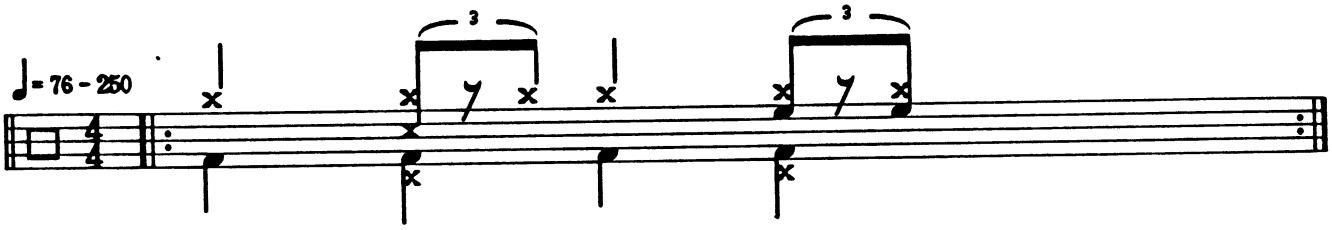
BASIC JAZZ TIME



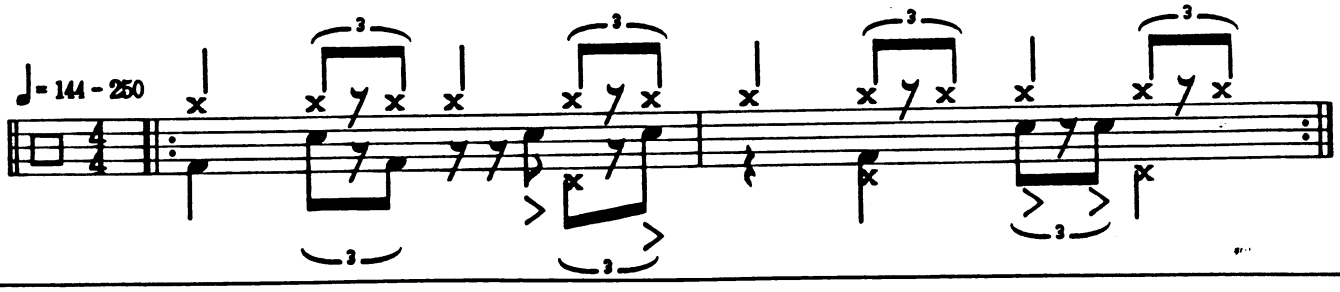
BASIC JAZZ TIME



BASIC JAZZ TIME



BEBOP



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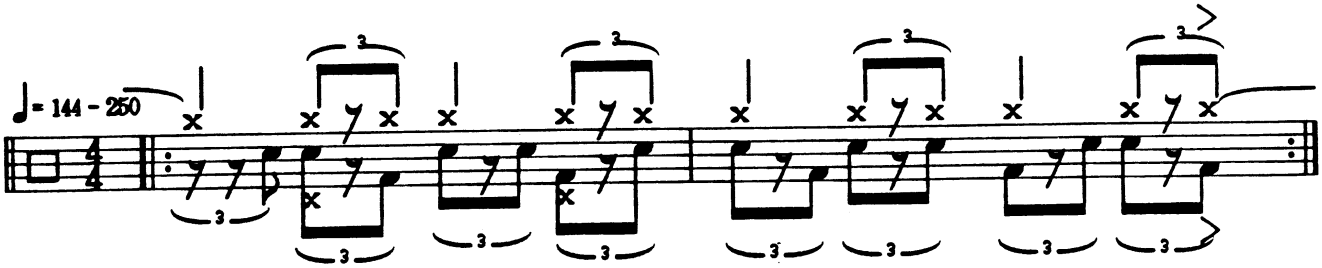

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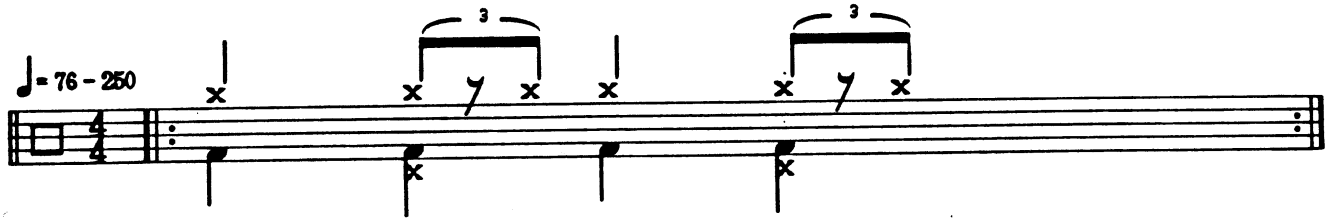
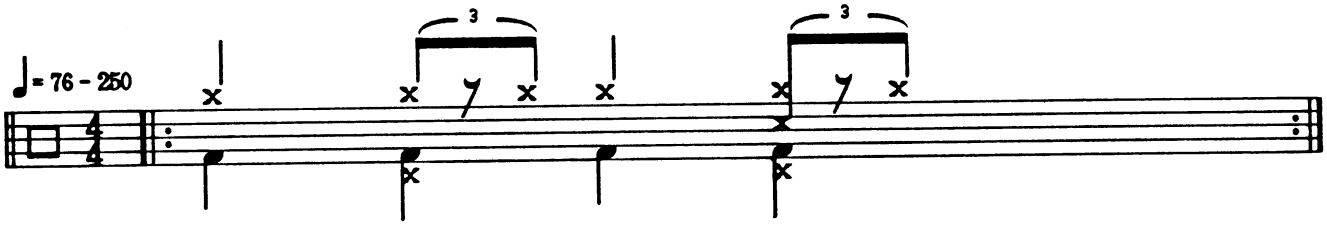
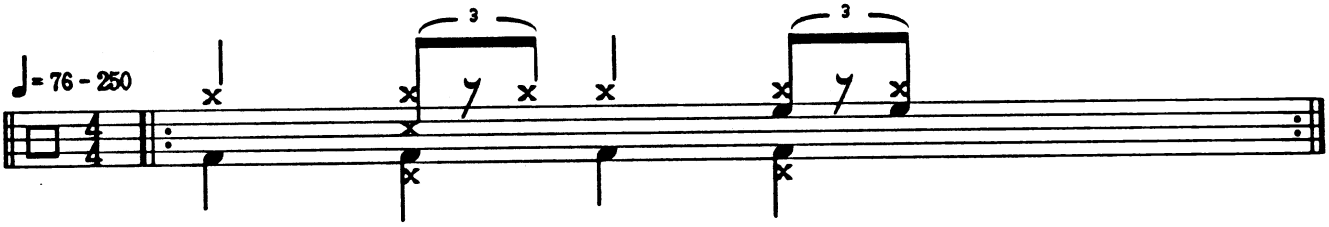


BASIC JAZZ TIME



BASIC JAZZ TIME



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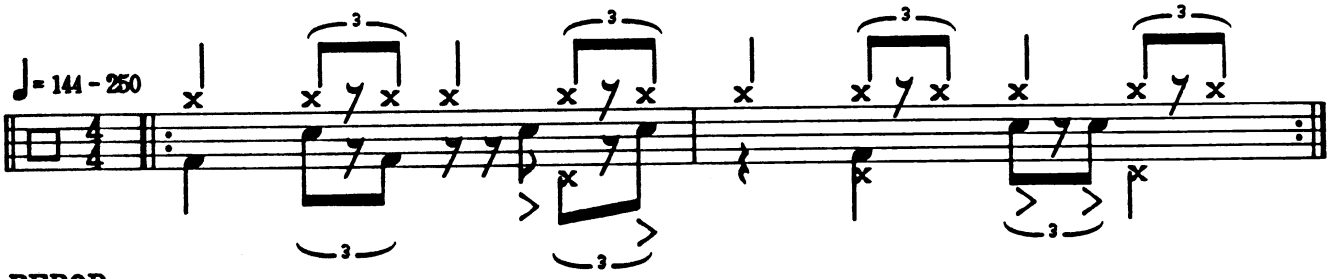

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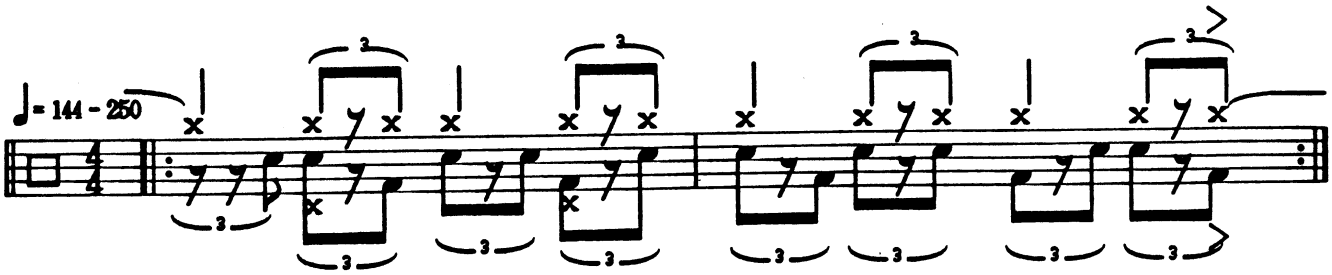
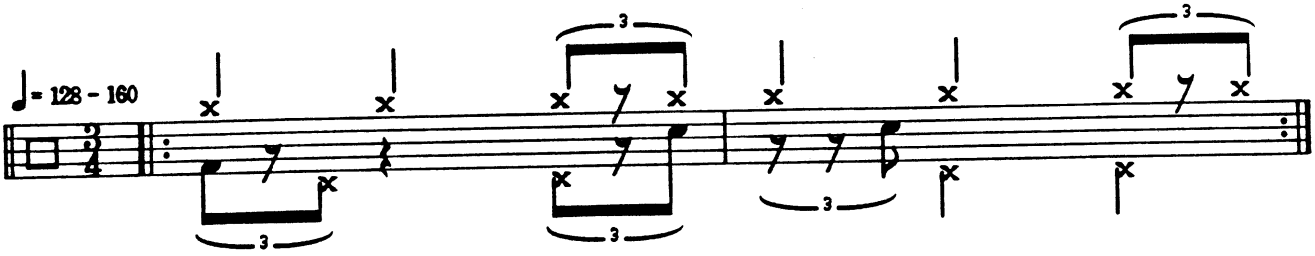
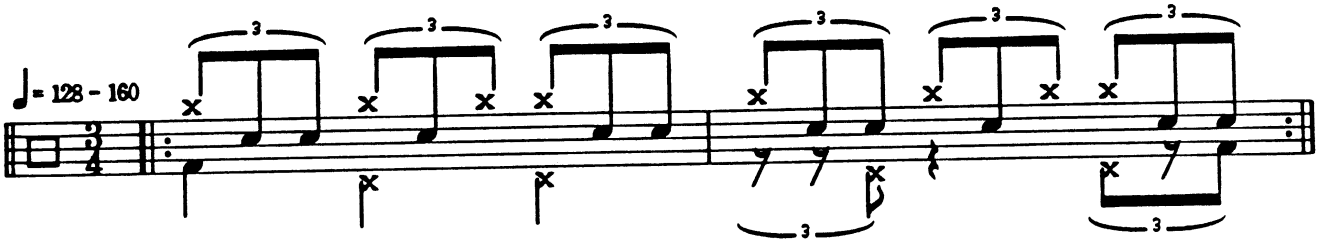


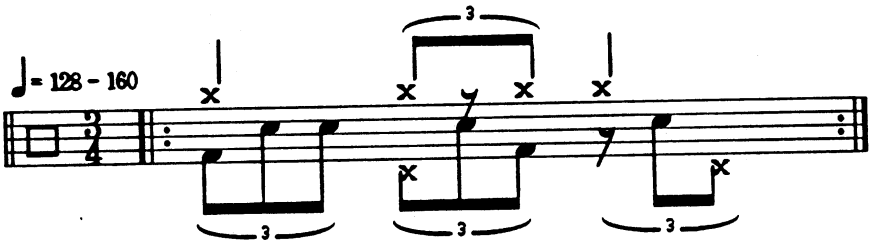
JAZZ WALTZ



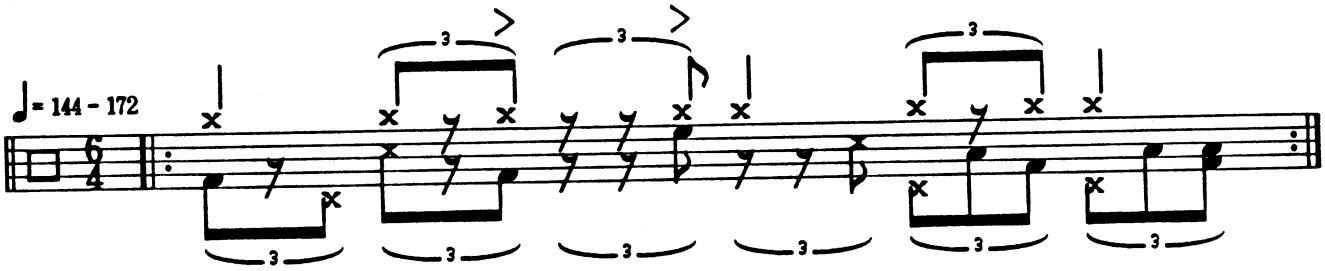
JAZZ WALTZ



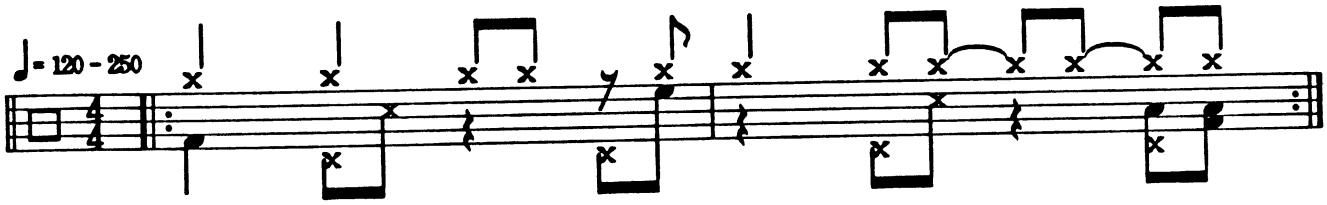
JAZZ WALTZ



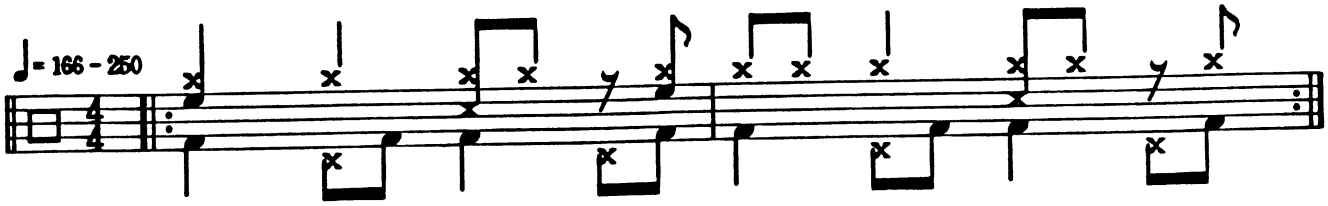
AFRO-JAZZ



JAZZ - LATIN

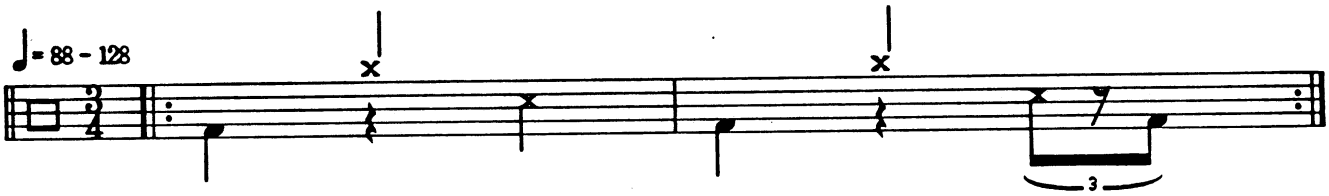


JAZZ - LATIN

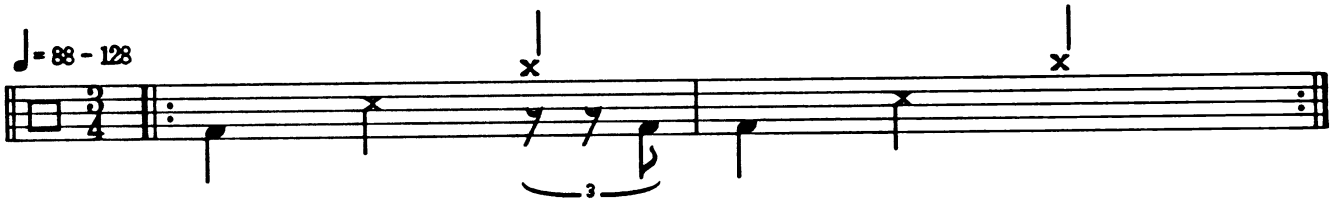


Country

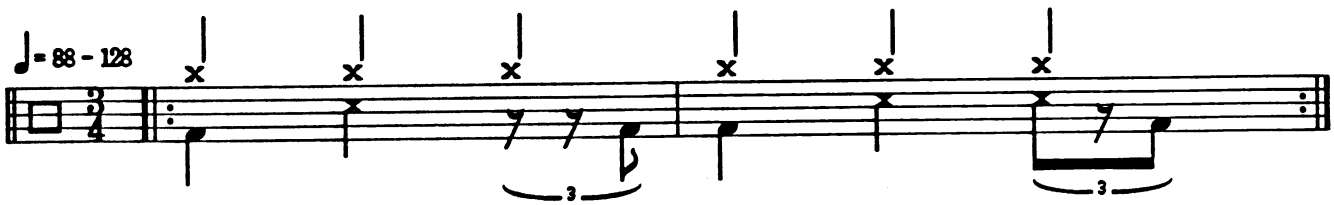
COUNTRY WALTZ



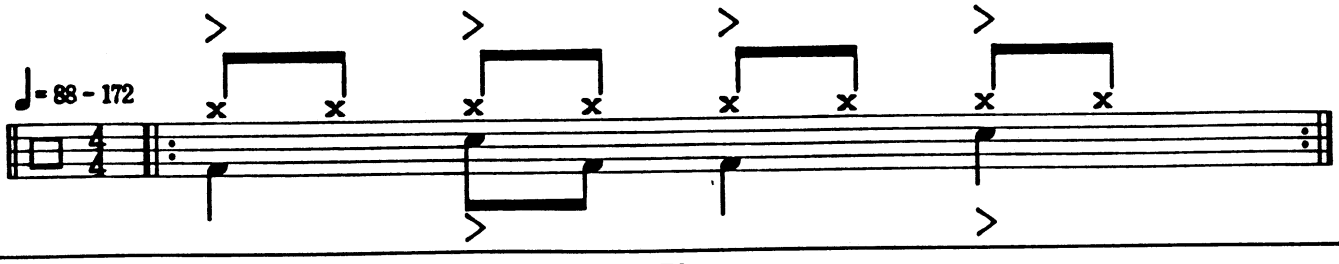
COUNTRY WALTZ



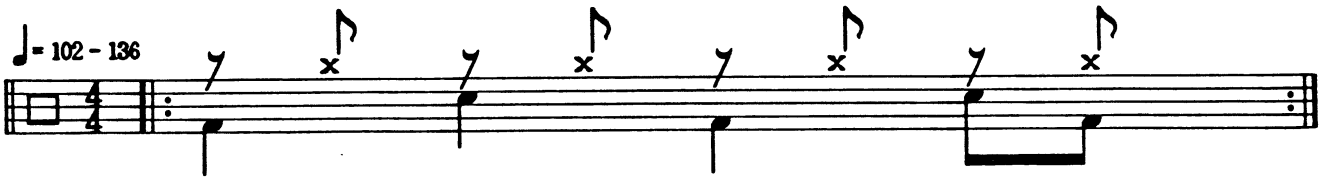
COUNTRY WALTZ



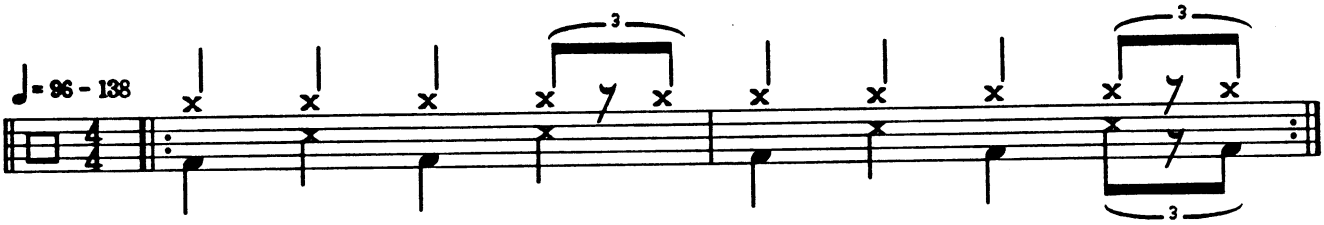
COUNTRY ROCK



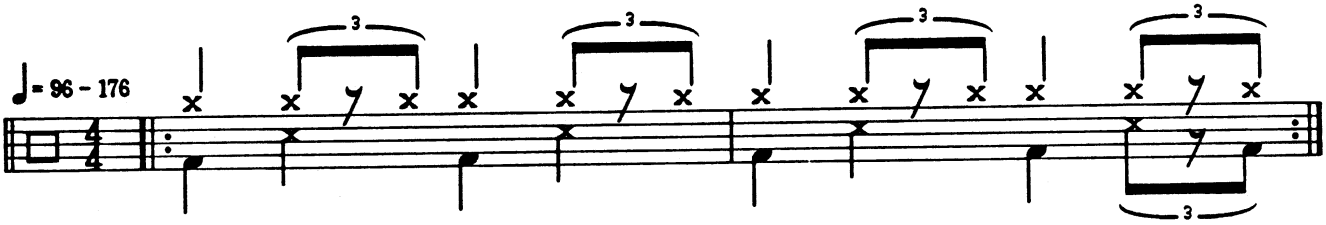
COUNTRY POP



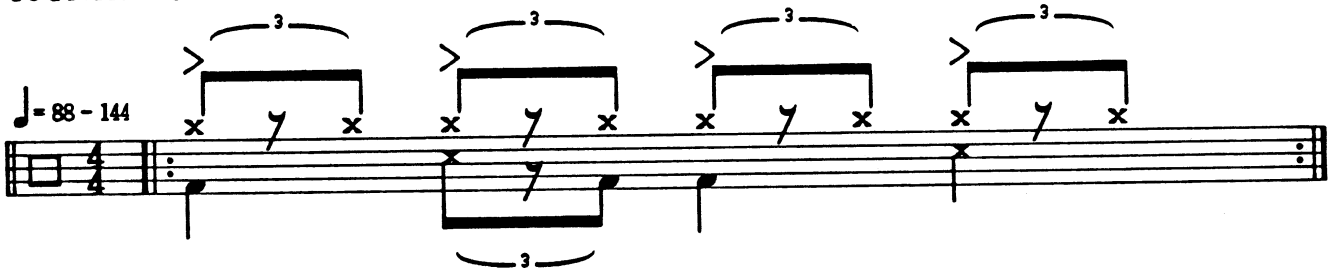
BASIC COUNTRY



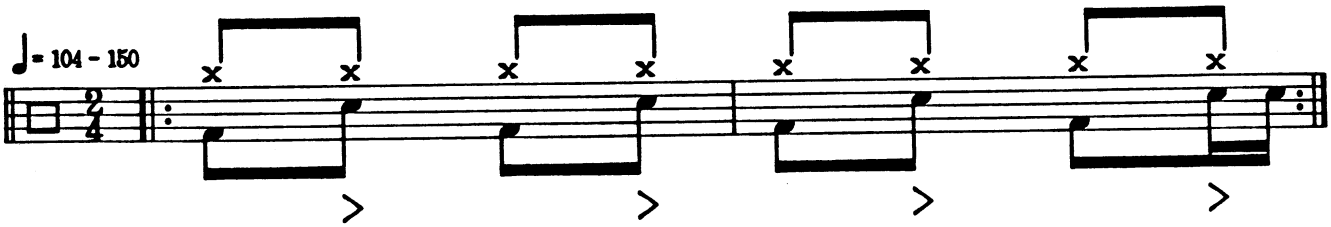
TRADITIONAL COUNTRY



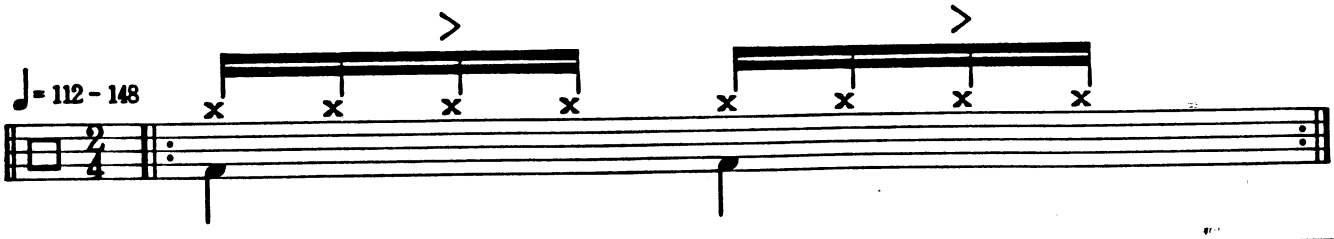
COUNTRY SHUFFLE



BLUEGRASS/2 BEAT COUNTRY

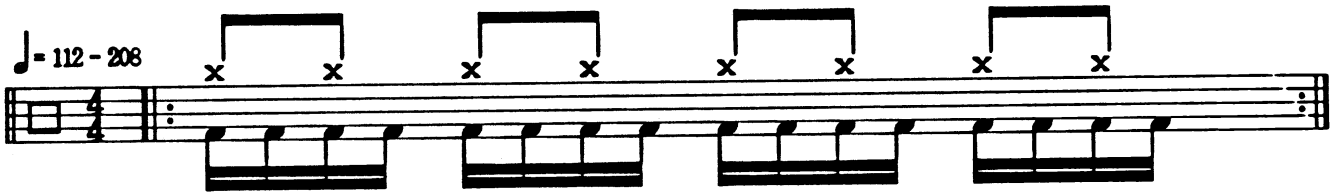


TRAIN TIME/ROCKABILLY

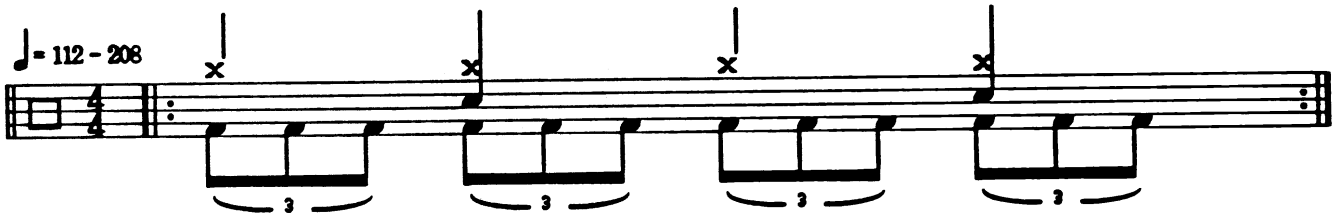


Heavy Metal, Punk, Rap

HEAVY METAL



HEAVY METAL



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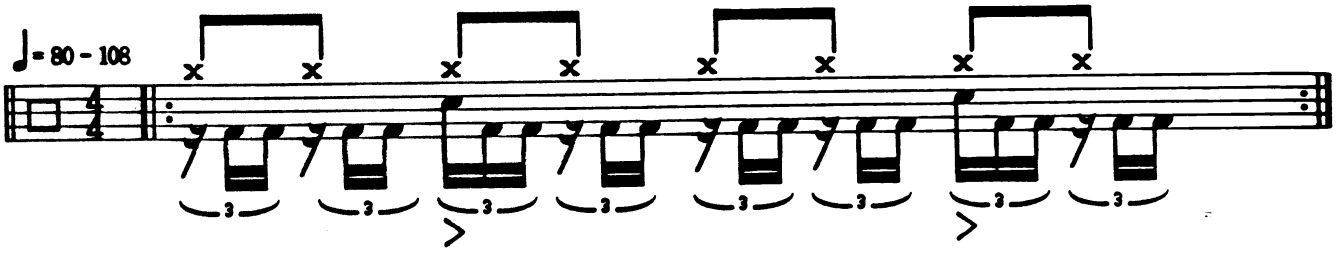
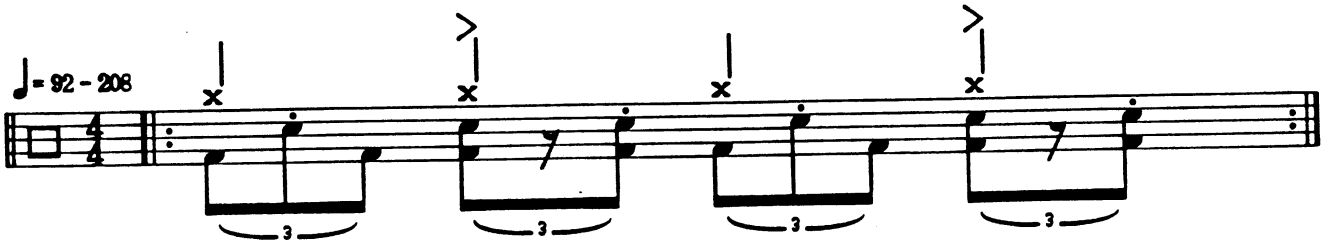
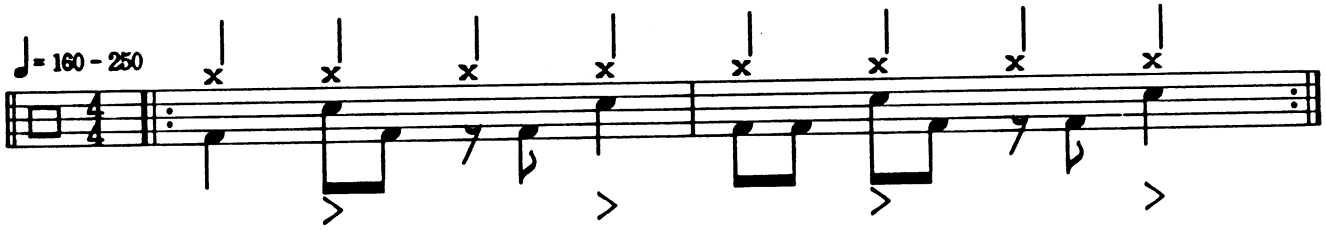


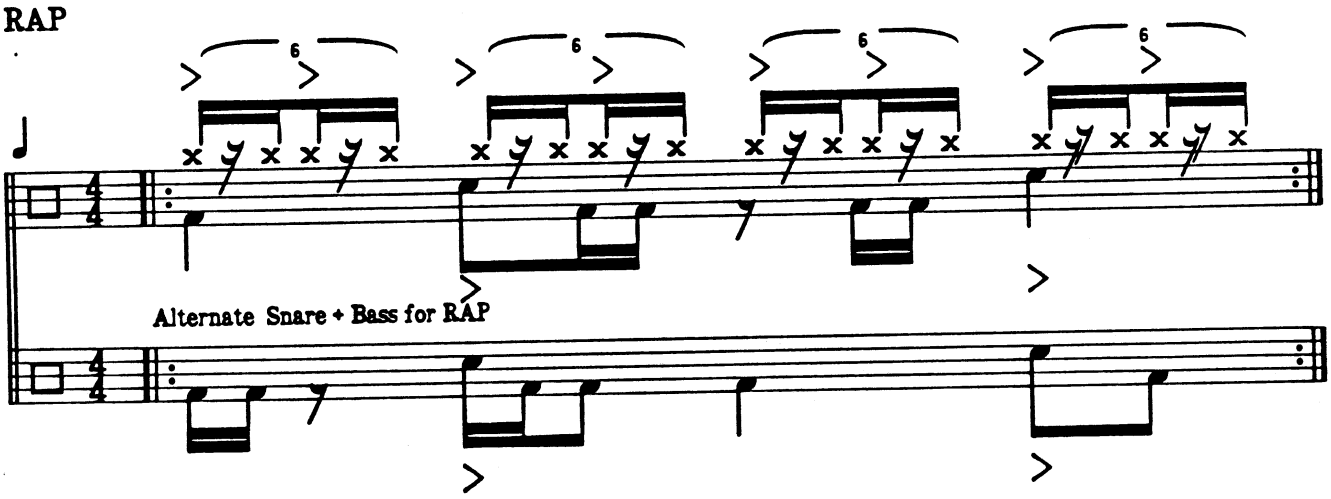
HEAVY METAL SHUFFLE



PUNK

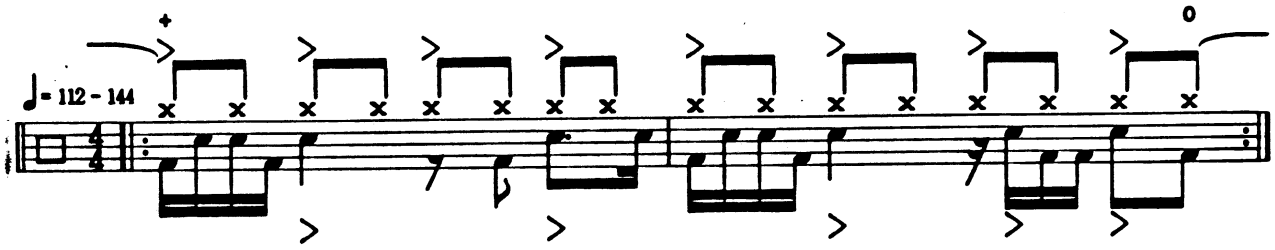


RAP

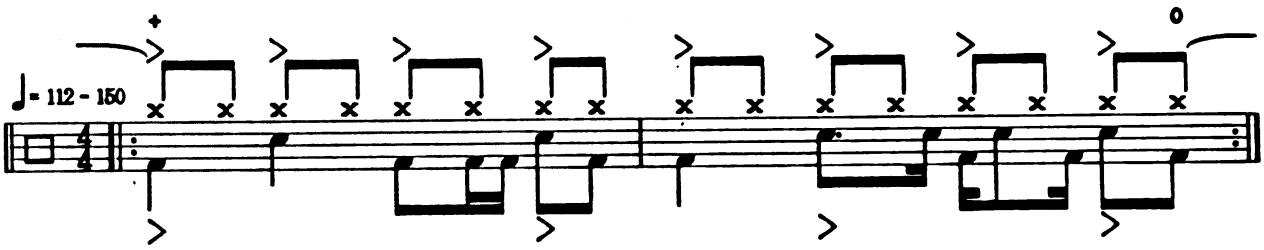


R&B/Funk, Motown

R+B /FUNK



R+B/FUNK



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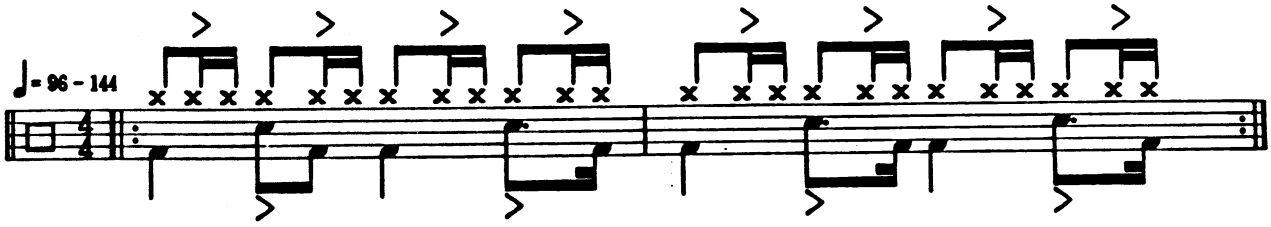
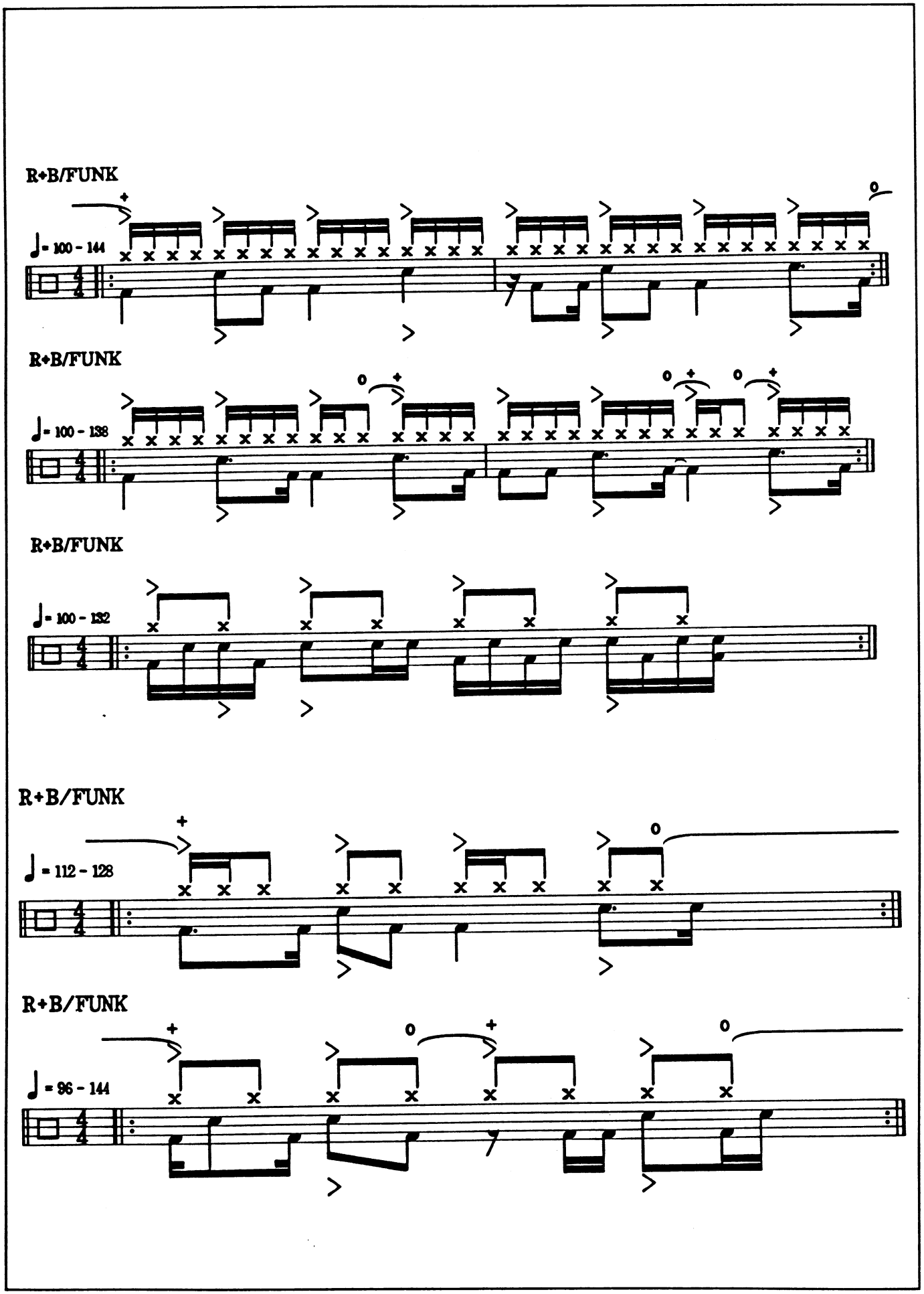
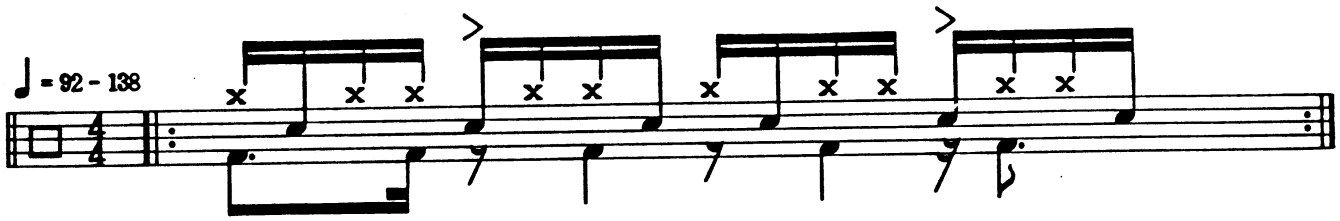
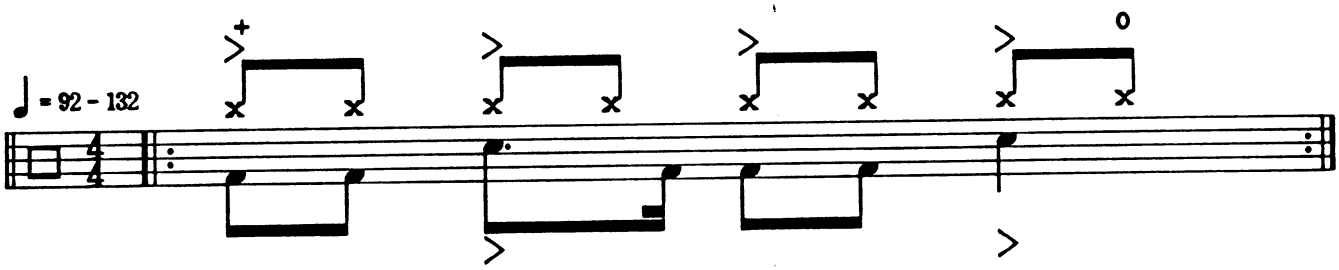



R+B/FUNK
♩= 100 - 144
R+B/FUNK
♩= 100 - 138
R+B/FUNK
♩= 100 - 132
R+B/FUNK
♩= 112 - 128
R+B/FUNK
♩= 96 - 144

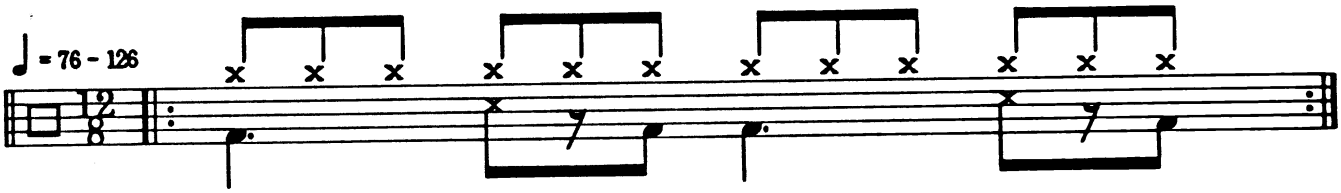
R+B/FUNK



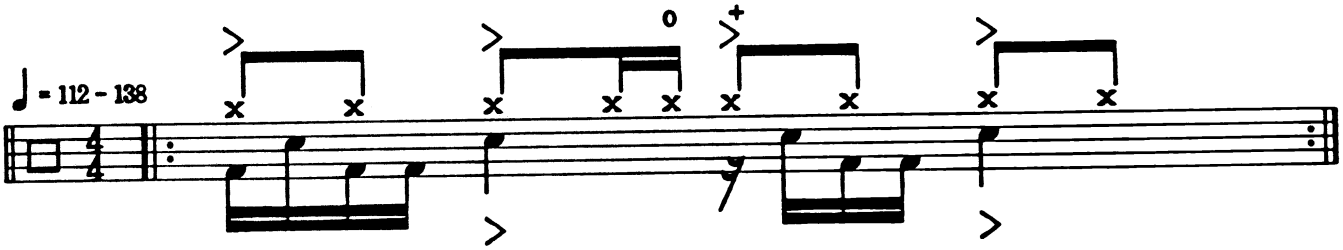
MOTOWN



MOTOWN-BALLAD



MOTOWN



Jazz Fusion/Funk

JAZZ FUSION/FUNK

♩= 100-132

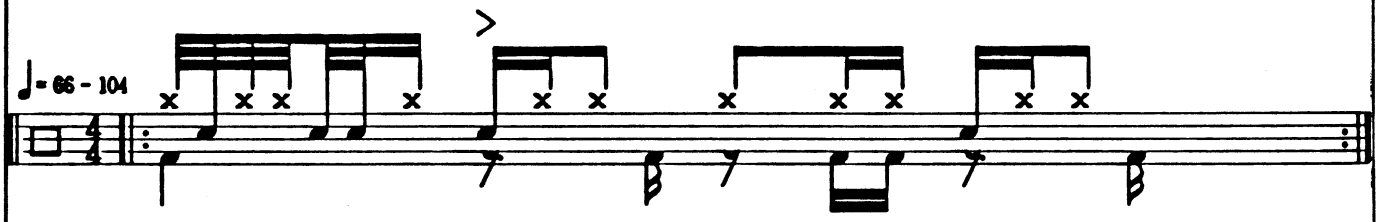
JAZZ FUSION/FUNK

♩= 80 - 116

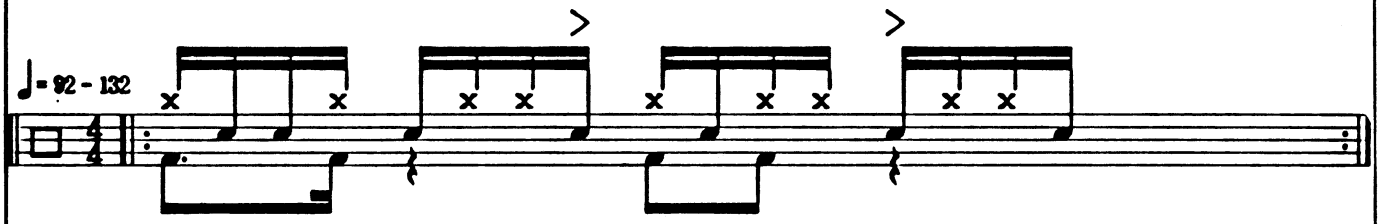
JAZZ FUSION/FUNK

♩= 66 - 104

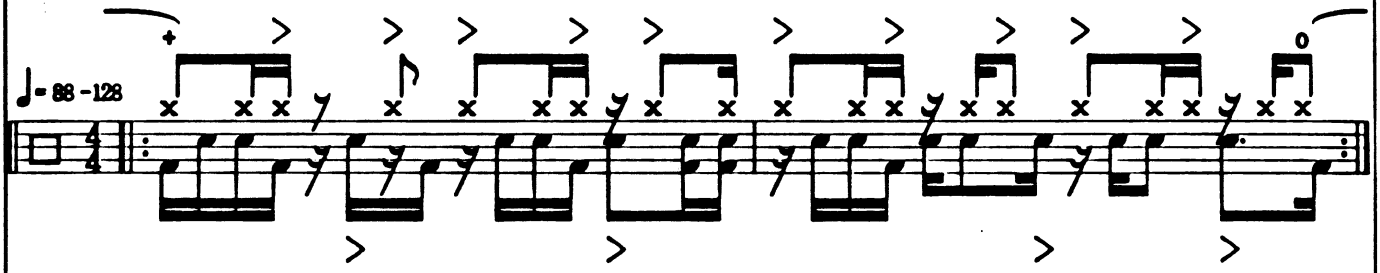
JAZZ FUSION/FUNK



JAZZ FUSION/FUNK

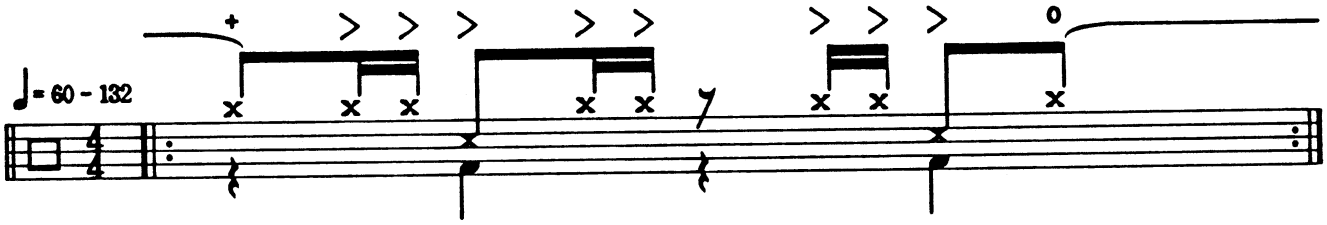


FUNK

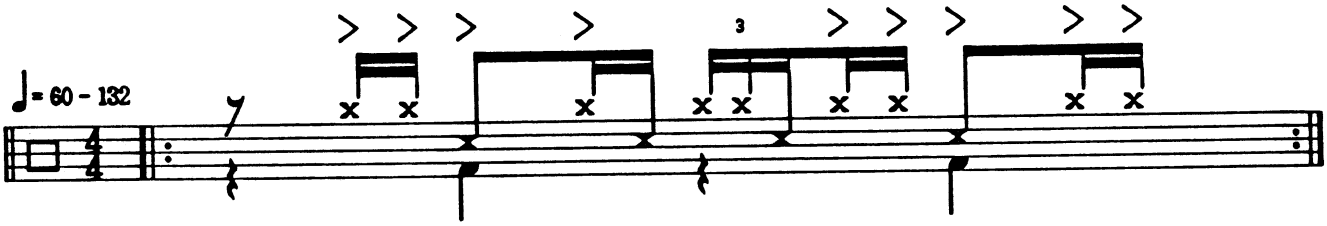


Reggae

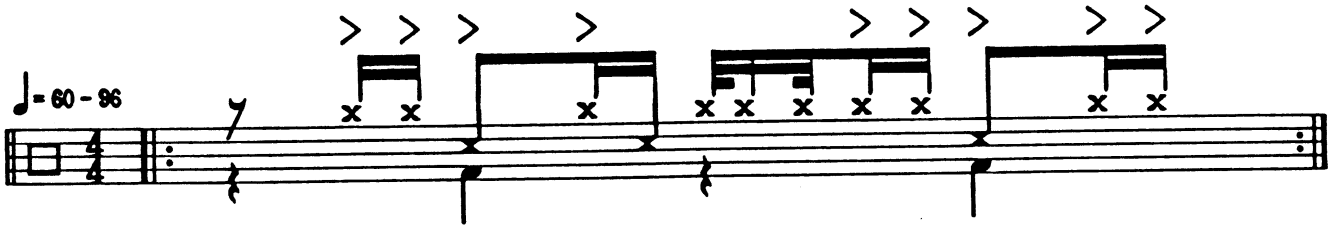
BASIC REGGAE



REGGAE



REGGAE



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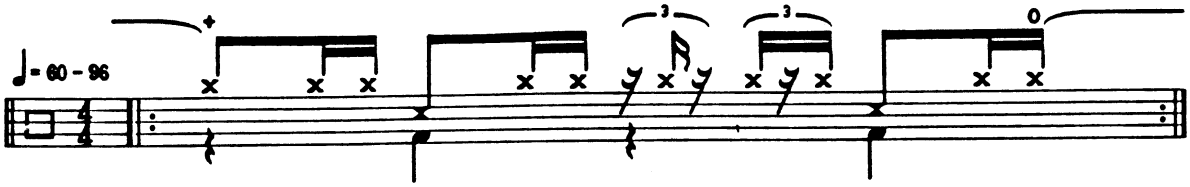

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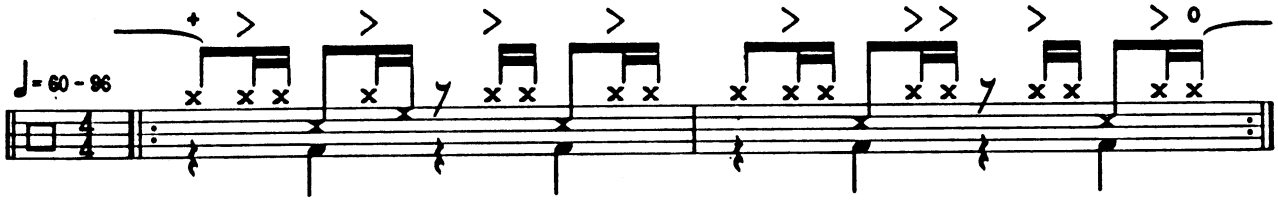
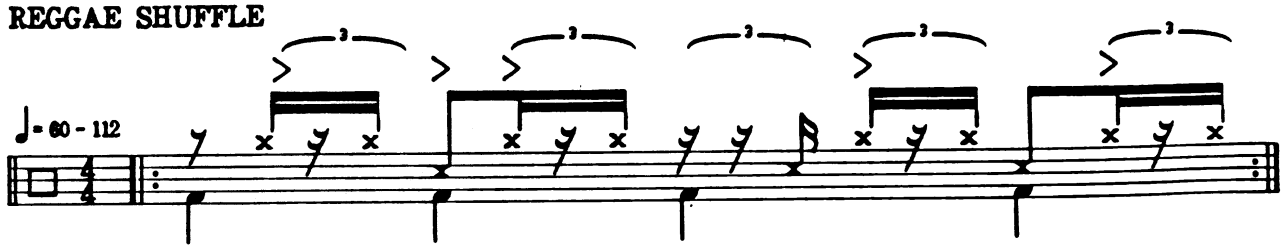
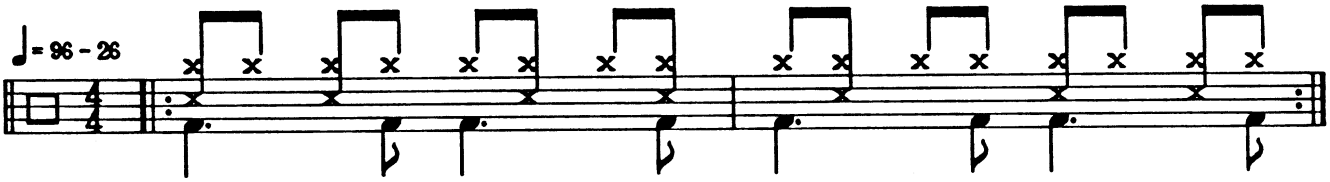


REGGAE SHUFFLE

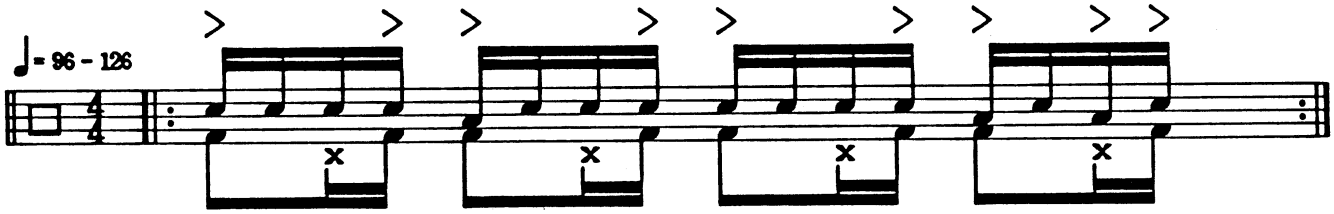


Latin

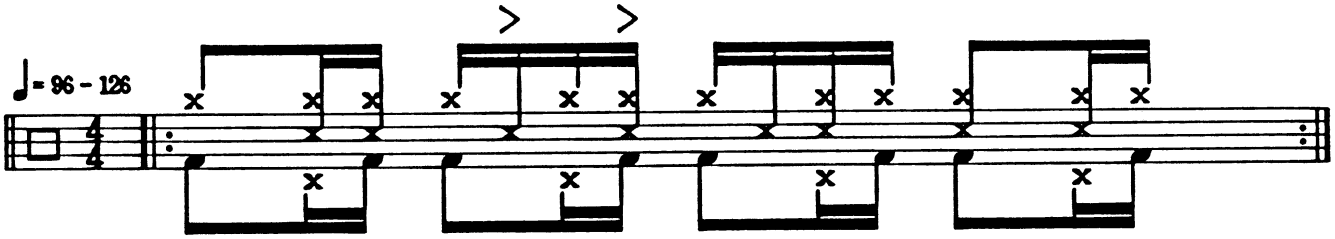
BOSSA-NOVA



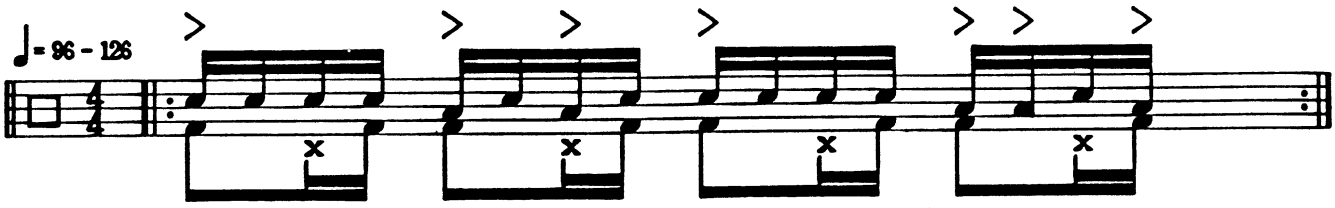
TRADITIONAL SAMBA



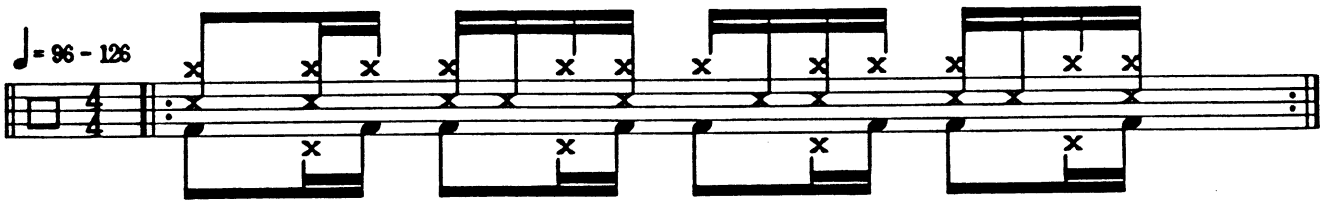
JAZZ SAMBA



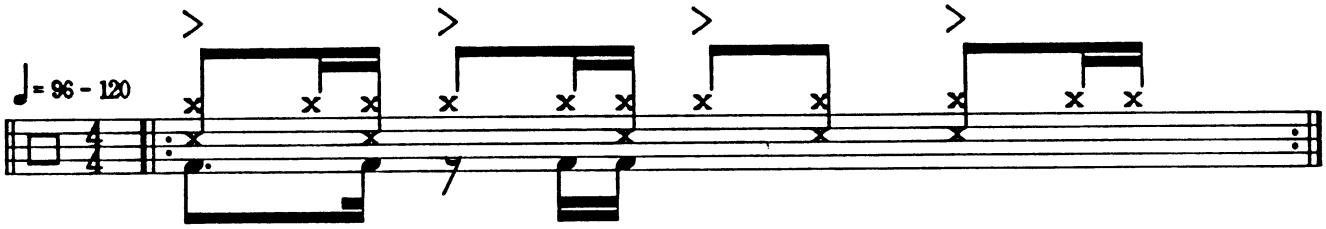
PARTIDO ALTO



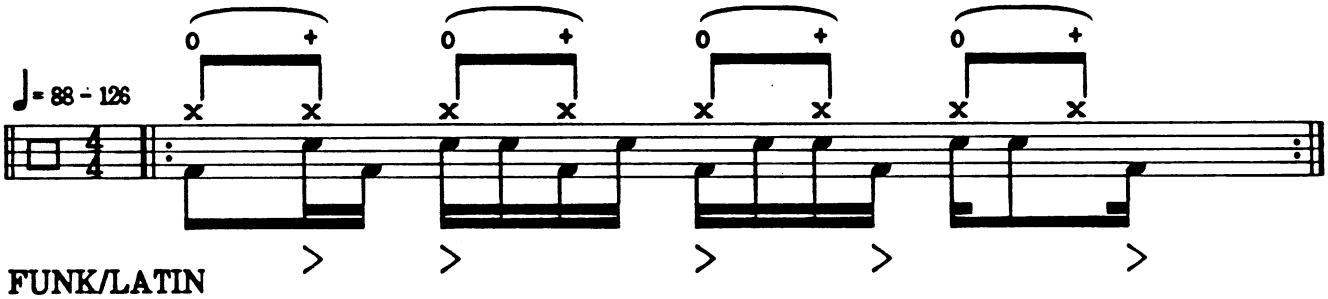
JAZZ SAMBA



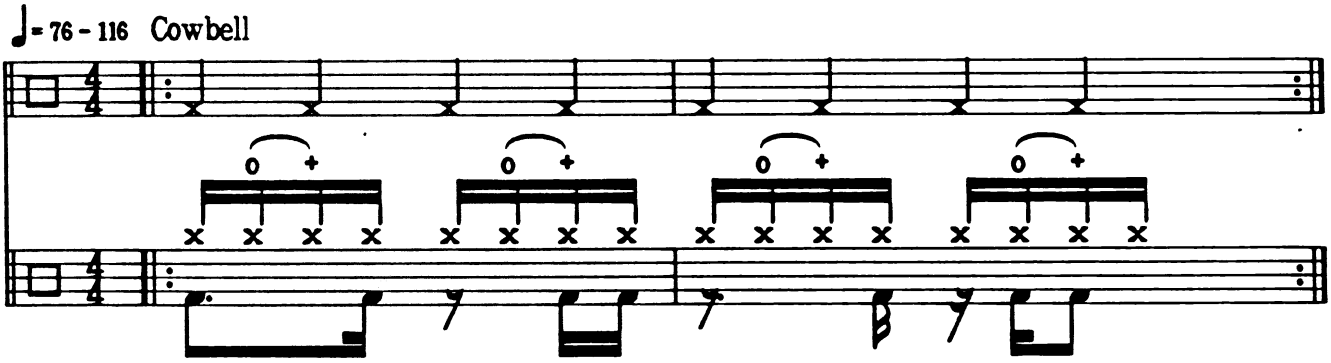
RUMBA



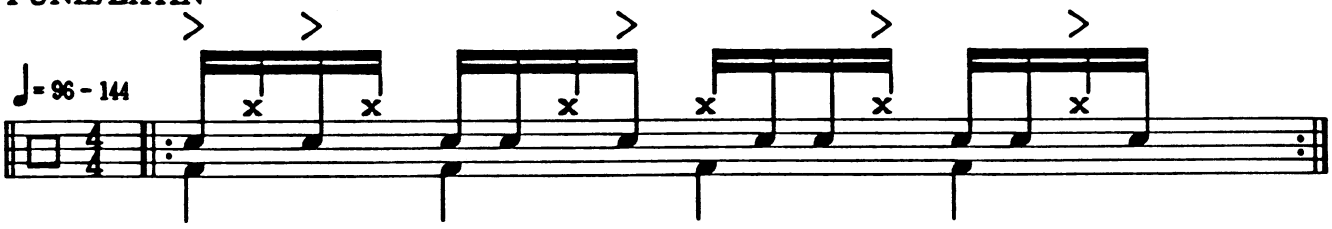
FUNK/LATIN



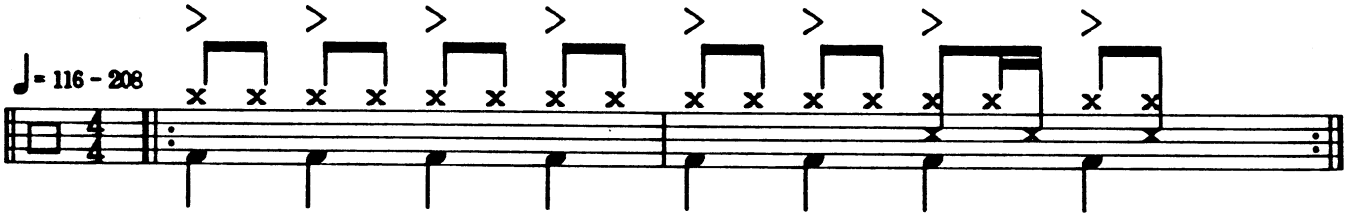
FUNK/LATIN



FUNK/LATIN



SKA



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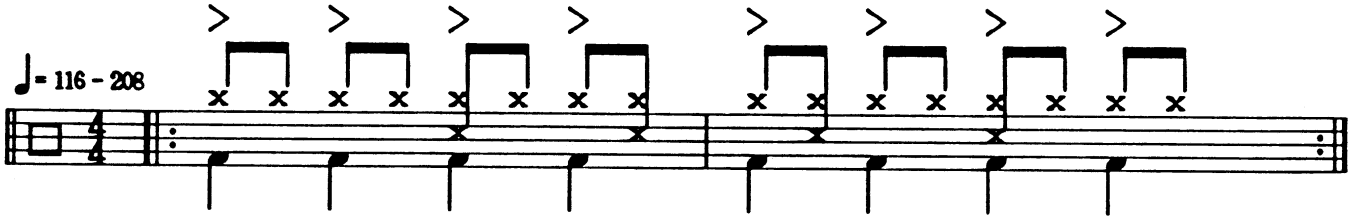
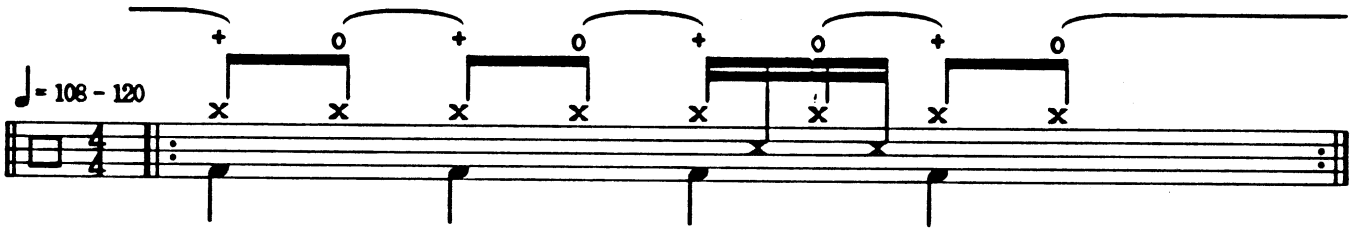
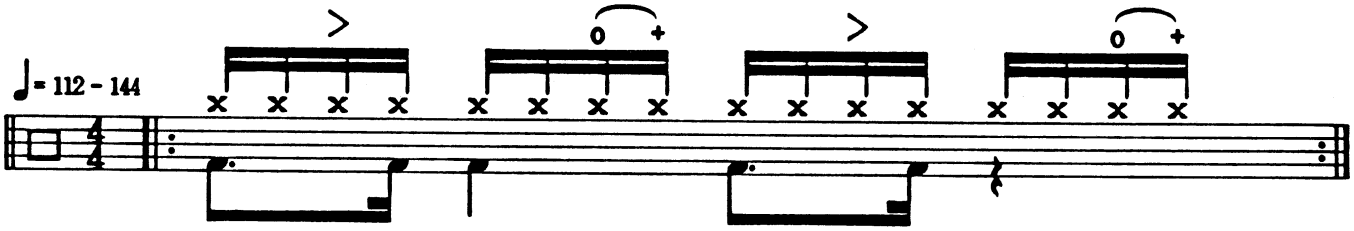


SOCCA



CALYPSO



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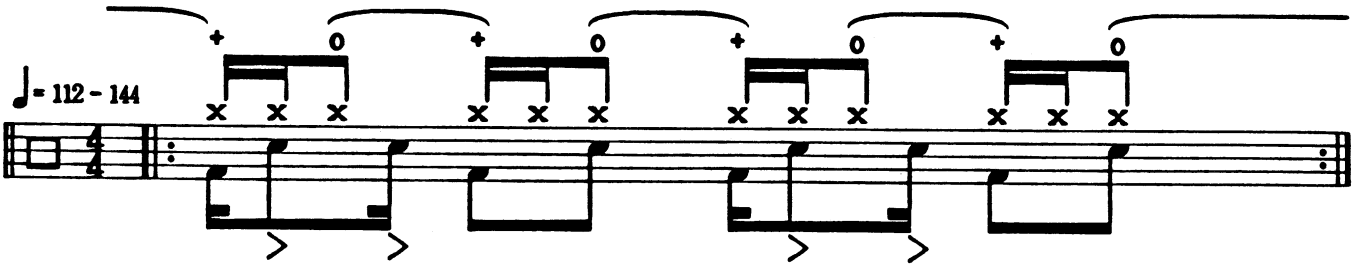

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